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MacWrite 5.0, MindWrite, Buyers Guide

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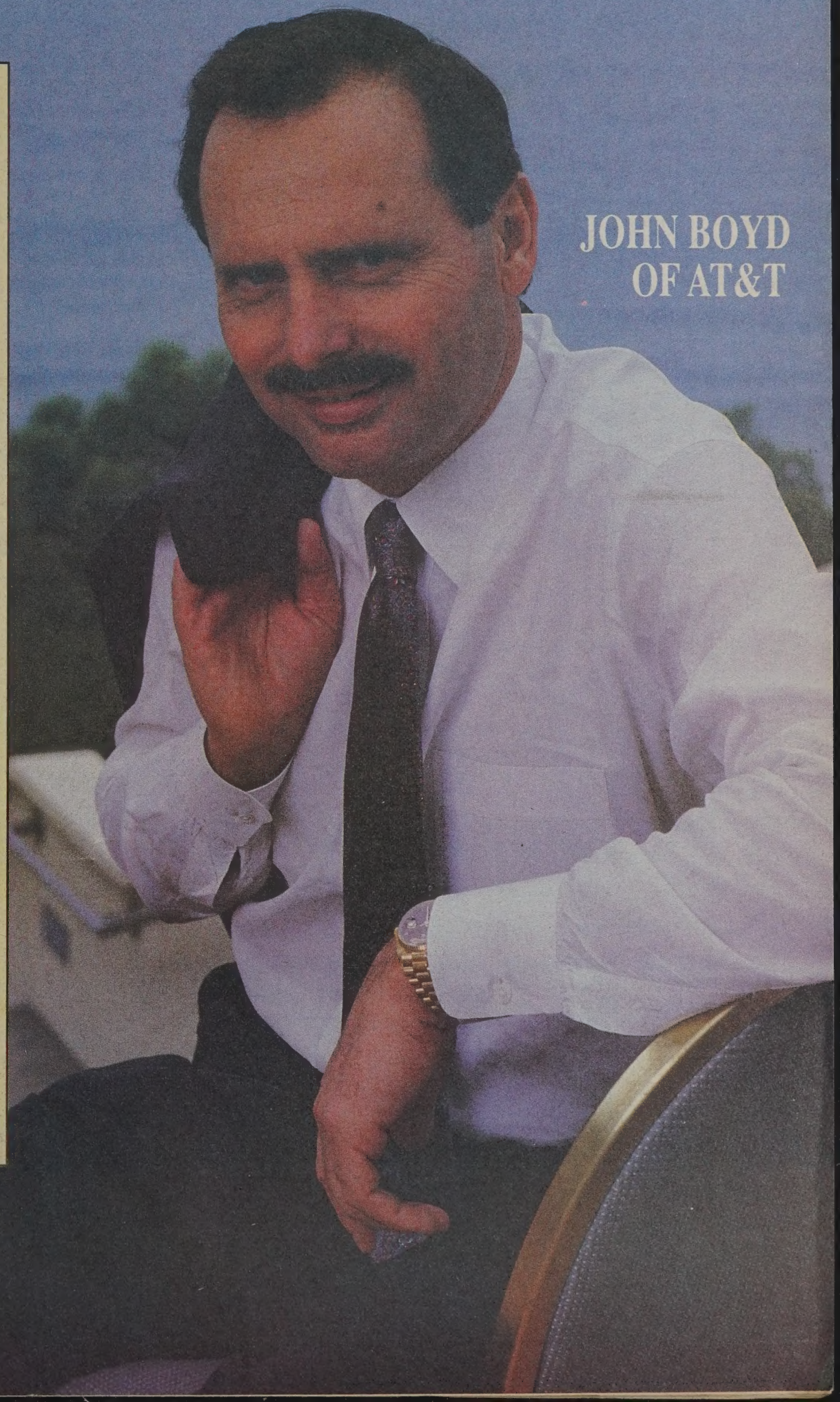

JOHN BOYD OF AT&T

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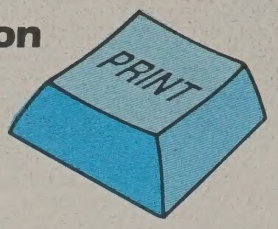
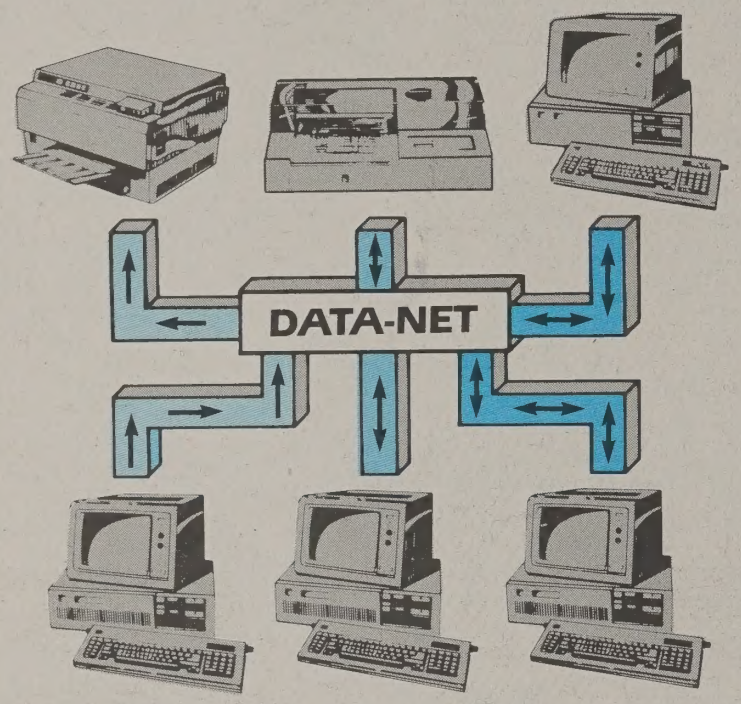
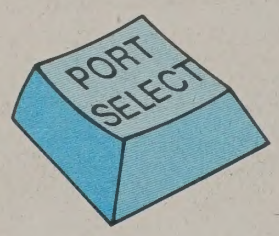
Simultaneous Operation







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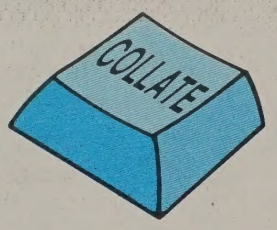

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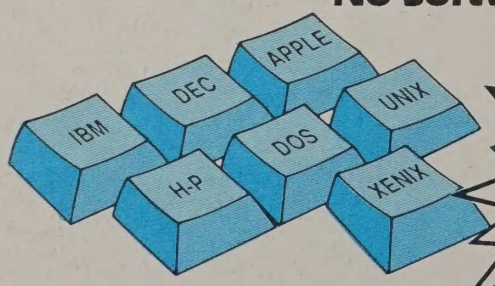

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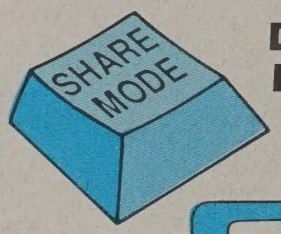
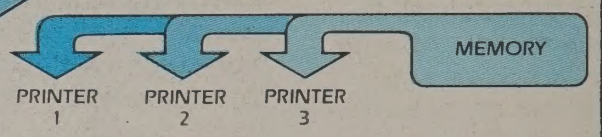
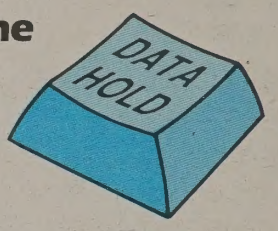
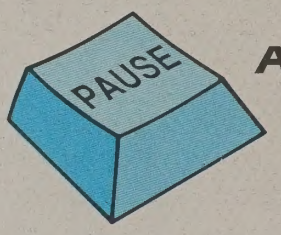


DATA-NET Routes Print Data to the Directed or Next Available Printer



DATA-NET Will Hold the Data You Send to Memory Until You're Ready to Print





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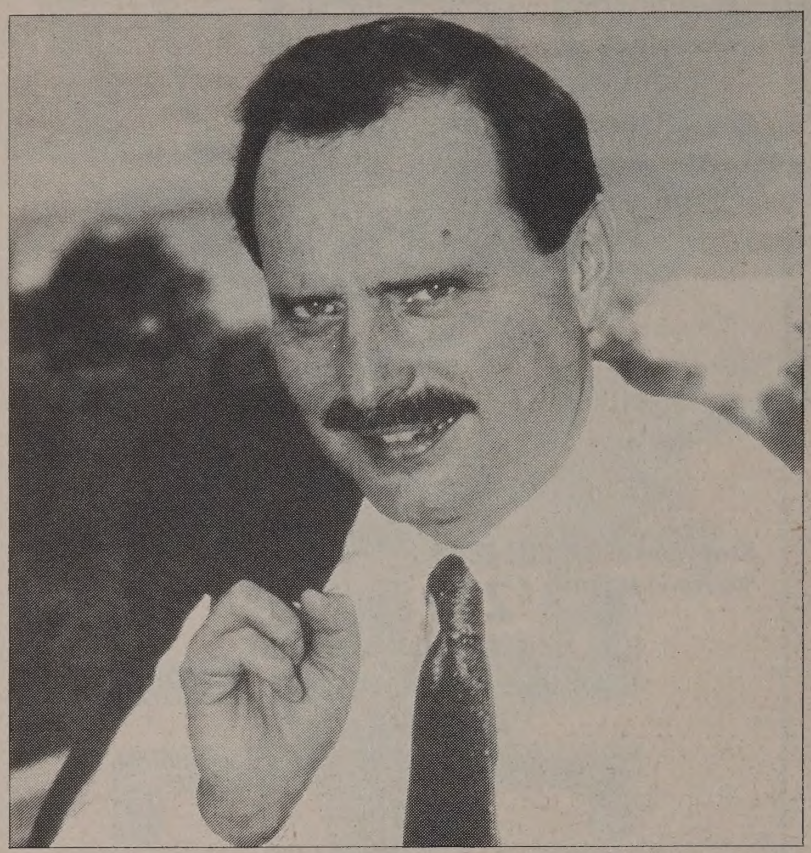

John Boyd, sales and marketing vice president of AT&T's Data Systems division, talks about the new Open Look standard.

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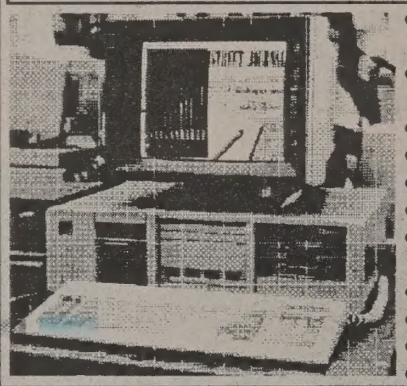

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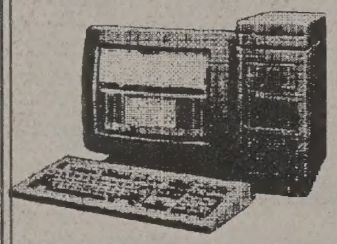

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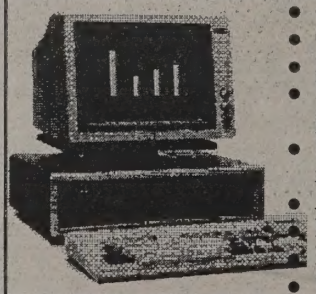

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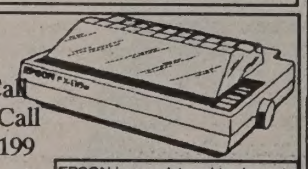

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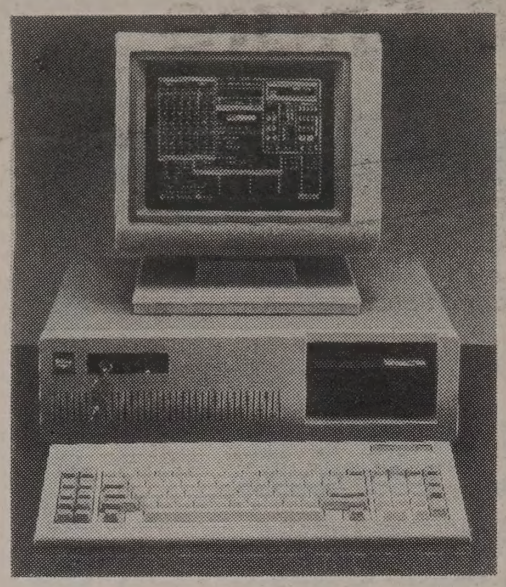

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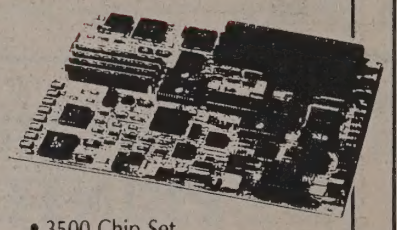

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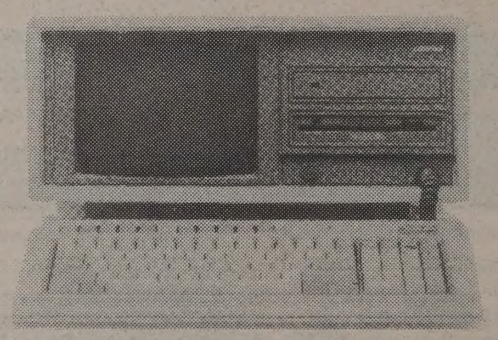

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FEATURES:

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May 5 – 7 Computer Networks Intensive 3-Day Seminar. Los Angeles. Contact The Right Way Computer Training (213) 215-1061.

May 5 – 7 WordPerfect Intensive 3-Day Seminar. Los Angeles. Contact The Right Way Computer Training (213) 215-1061.

May 9 – 12 COMDEX. World Congress Center, Atlanta, GA. Contact The Interface Group, 300 First Ave., Needham, MA 02194. (617) 449-6600.

May 10 – 13 The Application Of Fault Tolerance Technology. Computer Science Short Course. UCLA Extension (213) 825-1047.

May 13 – 14 Computer-Using Educators (CUE) Spring Conference. San Diego. Contact CUE at (415) 328-2248 or (818) 355-8807.

May 14 Computer Swap Meet. Orange County Fairgrounds, Costa Mesa. Call RK Productions at (800) 252-7927 for information.

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May 17 – 19 International Communications Association's 41st Annual Conference And Exposition. Anaheim Convention Center. Call 1-800-ICA-INFO.

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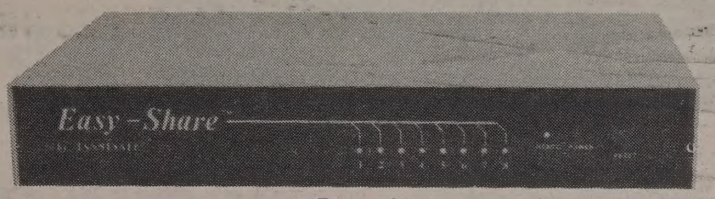

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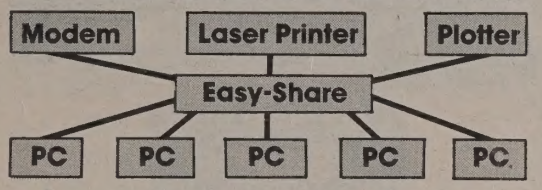

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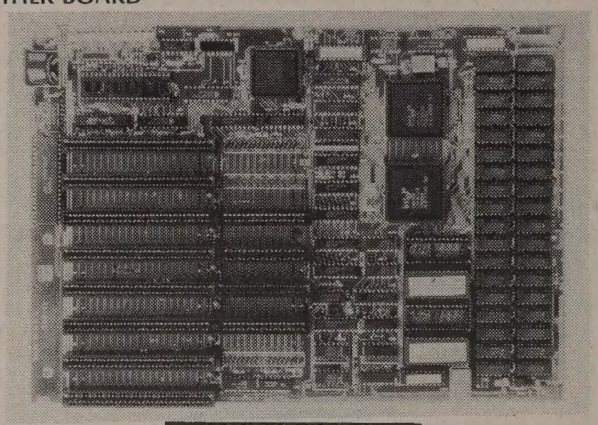

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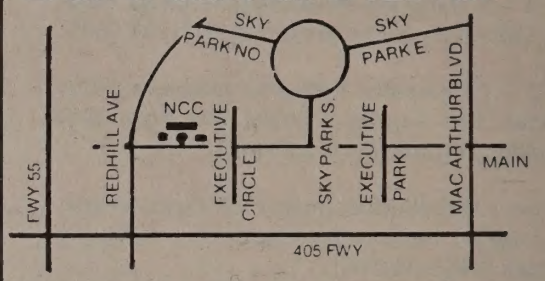

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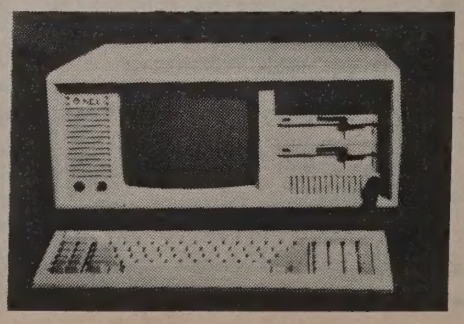

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- Non-glare LCD screen with back light
- 640X200 pixels, 80X25 characters
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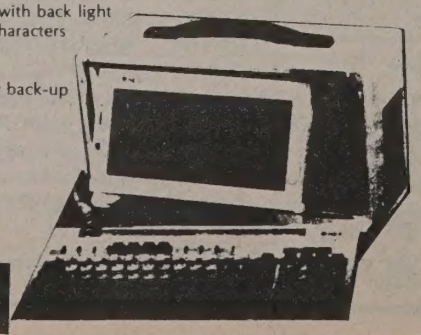

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June 4 San Bernardino Computer Show. National Orange Show Grounds. East West Computer Shows (415) 388-8893.

June 6 – 7 Comprehensive Telecommunications Update Intensive Three Day Seminar. Anaheim. Data-Tech Institute (201) 478-5400.

June 7 – 9 Distributed Data Base Systems. Computer Science Short Course. UCLA Extension (213) 825-1047.

June 11 San Diego Computer Show. Scottish Rite Center. East West Computer Shows (415) 388-8893.

June 11 The Mac Show. Veterans Memorial Building, 4117 Overland Ave., Culver City. Call (213) 276-1577.

June 12 – 15 25th Annual Design Automation Conference. Anaheim Convention Center. Contact MP Associates. (303) 530-4333.

June 13 – 15 The Design And Analysis Of Reusable Software. Computer Science Short Course. UCLA Extension (213) 825-1047.

June 16 – 18 DOS Hard Disk Management Intensive 3-Day Seminar. Los Angeles. Contact The Right Way Computer Training (213) 215-1061.

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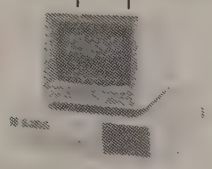

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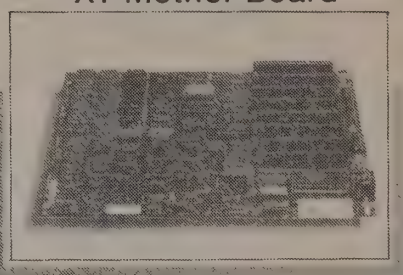

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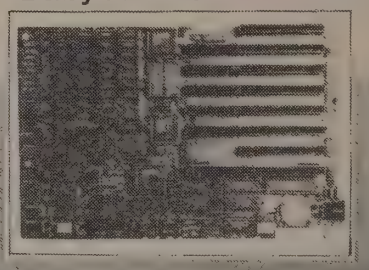

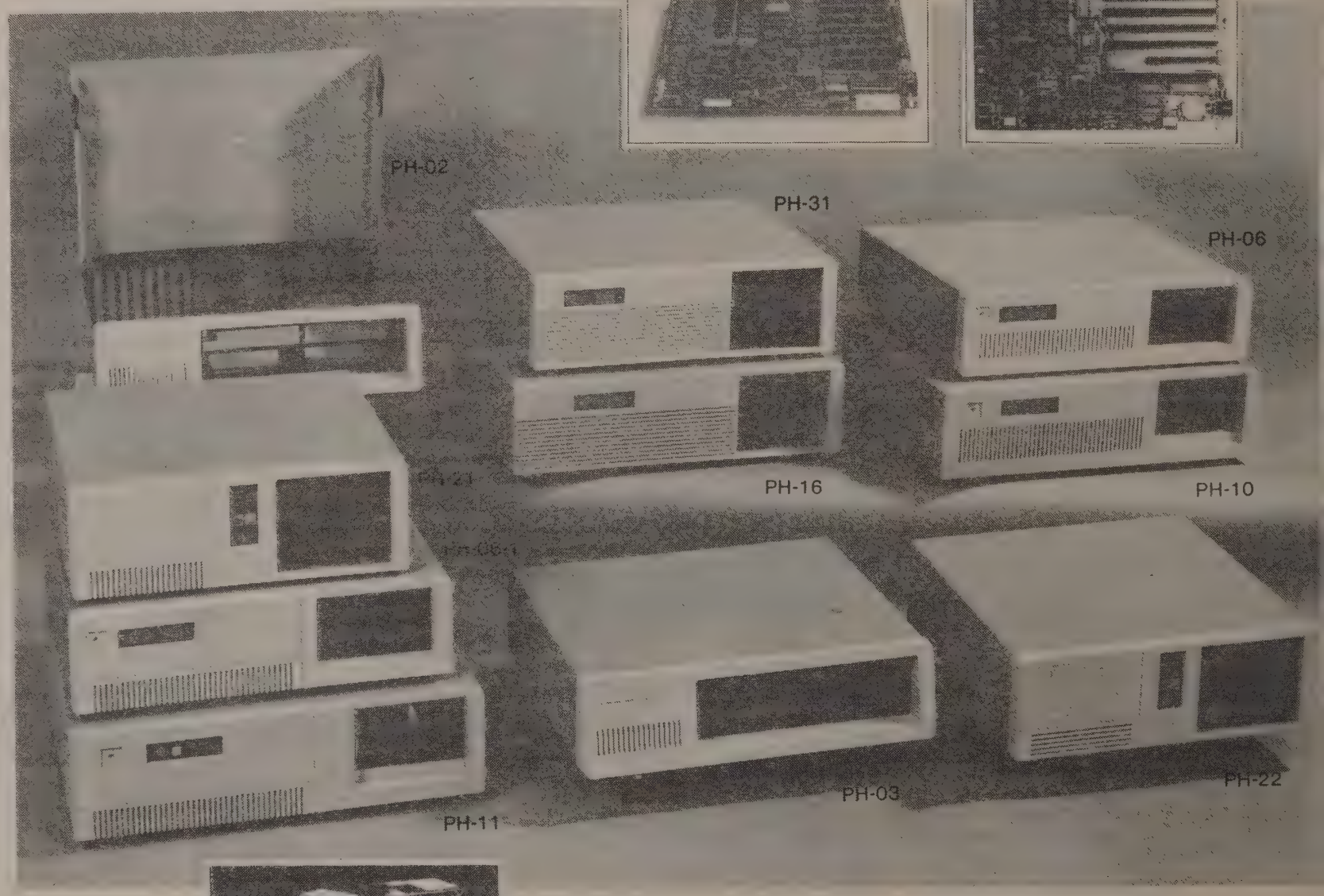

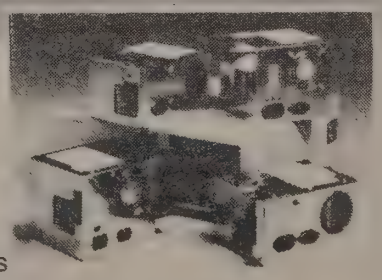

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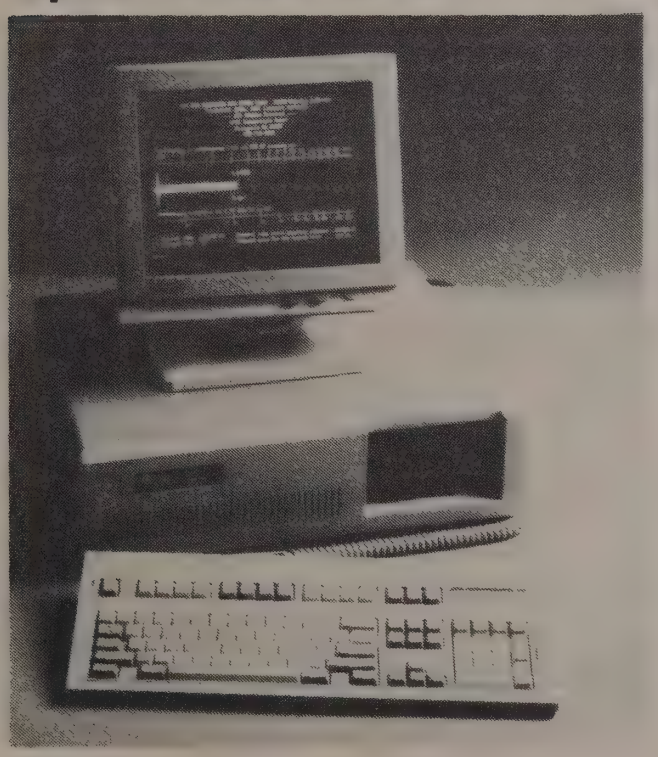

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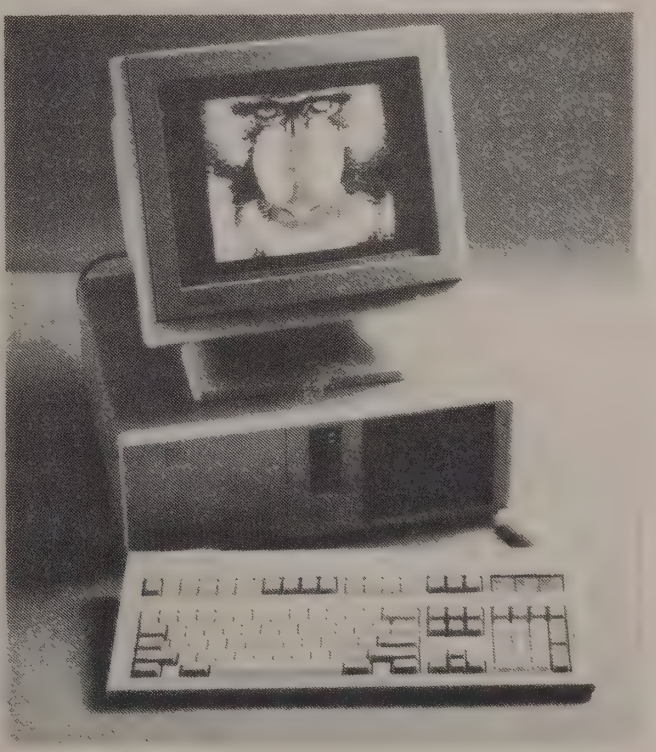

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By Paul Hoffman

AT&T Announces UNIX Graphical Interface; New OS/2 Developer Kits Ship; Sun Announces 386 Machines; Autodesk Acquires Xanadu

Plus: More Look And Feel

AT&T Announces New User Interface For UNIX.

In what could be the death of "grep" and "ls," AT&T joined forces with many of the major UNIX software vendors to announce Open Look, a new user interface for UNIX. AT&T hopes that Open Look will make UNIX systems much more attractive to beginning users. The interface will be available on systems starting next year as part of UNIX System 5.4. Open Look defines the user's interactions with both the operating system (for instance, to manage files and start programs) and with applications. AT&T will sell programming toolkits to software manufacturers so that they can make their programs work in the Open Look guidelines.

The Open Look interface requires a graphic display and a mouse. Since most current UNIX systems have neither, it is likely that the transition from the current text-based applications will take a long time. The Open Look interface has many features in common with Apple's Macintosh interface, but it also has many improvements, such as the ability to "pin down" often-used elements on the screen. It is likely that Open Look will take a significant amount of overhead in the CPU and will thus be first introduced on higher-powered machines.

In order to generate excitement for Open Look, AT&T announced support for the interface from many non-UNIX vendors such as Ashton-Tate and Lotus. Both companies expressed the belief that the new standard makes it much more likely that they will develop products for UNIX. Although such products are sure to be years away (since Open Look will not be widely available for over a year), they indicate that many MS-DOS and Macintosh developers may be swayed towards UNIX if it looks like the customer base can grow faster than at its current rate.

The people not supporting the announcement were almost as interesting as those supporting it. Conspicuously absent from the list of supporters were Microsoft and Apple. Since Microsoft is the developer of XENIX, one of the most popular UNIX systems, its non-committal to Open Look could hurt Open Look's chances of catching on. Microsoft is already working with AT&T to make XENIX and main-line UNIX more compatible, and they are expected to release a new version of XENIX this summer that completes that goal. However, since almost all PC and PC-compatible systems running UNIX are running XENIX, Microsoft's support of Open Look could be critical to its wide-spread success. Apple likewise made no announcement of support, partially due to the newness of its A/UX system and the fact that A/UX already can take advantage of the Macintosh user interface.

In a probable response to the Apple vs. Microsoft suit, AT&T made the origins of Open Look very clear: it was primarily developed at Sun with AT&T's help. Sun announced that it had licensed the visual copyrights to Xerox's graphical user interface for inclusion in Open Look. In presentations given at the announcement, it was clear that AT&T was not trying to clone the Mac user interface and had included features that made it clear that the interface was visually quite different. Sun and Xerox announced a joint technology agreement last year in which Sun would acquire some of Xerox's technology in exchange for Sun hardware. It was announced that Xerox intends to buy or manufacture over $200 million in Sun hardware over the next five years.

Microsoft Ships Developer Versions Of OS/2 1.1 And Presentation Manager

Helping to ease the worry about its commitment to finish the Presentation Manager this fall, Microsoft released its latest version of the OS/2 Software Development Kit (SDK) with early pre-release copies of version 1.1 and the Presentation Manager. Although both pieces of software have many significant bugs, they allow software developers a chance to get started on developing software that will work closely with the new environment when it is released. Microsoft acknowledges that the software in the SDK is much slower than the release version will be.

Many developers were concerned that Apple's suit against Microsoft for the visual copyright of *Windows 2* would affect the release of the Presentation Manager, and Microsoft has gone to great lengths to assure them that it won't. According to Microsoft, "In appearance, [MS OS/2 Presentation Manager] is identical to the current versions of Microsoft *Windows* version 2.0." Microsoft also claims that its Presentation Manager "is an inherent part of the MS OS/2 operating system." Thus, it is likely that when the final version of Presentation Manager is shipped, it will become a part of Apple's suit against Microsoft since it uses the same visual interface that Apple claims infringes on the Macintosh interface. Since IBM has announced its intention to market the Presentation Manager as well, this could bring IBM into the suit as an additional defendant, if Apple chooses.

The OS/2 SDK costs $3000 and comes with dozens of manuals (over 10,000 pages of documentation), as well as videotapes about programming issues and 63 diskettes. Microsoft, 206/882-8080.

Sun Announces New Model Based On 80386; Runs UNIX And MS-DOS Programs

If it's from Sun, you know it runs UNIX. However, Sun's recent announcement of its 386i series of computers shows how deep that commitment is. Sun now supports UNIX on three different CPUs: the Motorola 68000 family, the SPARC family, and now the Intel 80386. The new computers run MS-DOS applications as well as UNIX applications, and can pass data between applications running in each operating system. The hardware supports the AT bus so that standard cards made by other manufacturers can be used in the computers.

Sun stressed that the machines are not PCs and are not priced like PCs. They are, according to Sun, "corporate workstations" that cost between $8,000 and $14,000. The are meant for high-end users who want a single workstation that can run MS-DOS programs but also take advantage of the UNIX features that are built into Sun's other systems, such as transparent networking. The systems will run MS-DOS version 3.3 and can run many MS-DOS applications simultaneously. The MS-DOS programs will run under SunOS, a UNIX derivative. SunOS has a graphic user interface that uses windows and icons so that much of UNIX's unfriendliness is hidden from the user.

There are two models in the 386i series. The 150 has a 20 MHz CPU and hold up to eight megabytes of RAM. The 250 has a 25 MHz CPU; that chip was just announced by Intel days before Sun's announcement. The 250 also has 32K of static cache to speed up the processor and can hold up to 16 megabytes of RAM. Both models come with Sun's large monochrome monitor. They also use Intel's new 82380 I/O chip that makes communications to peripheral devices much faster. Memory boards and graphics frame buffers can plug directly into the CPU board to greatly increase the

Paul Hoffman is a freelance writer who has written five books about computers.

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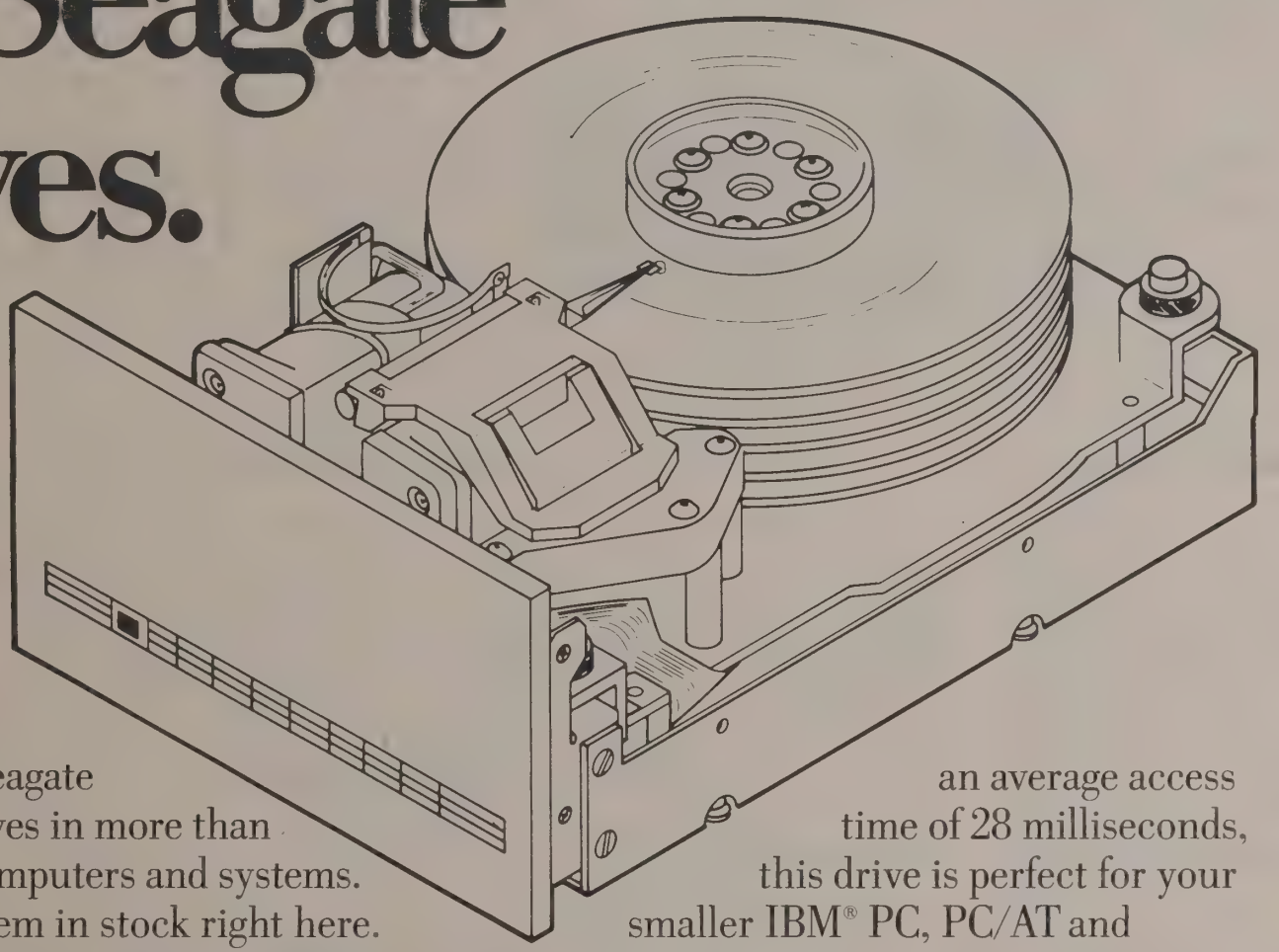

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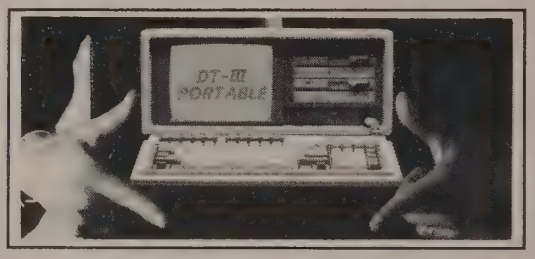

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flow of information; standard AT boards can also be used at a slower rate. Sun Microsystems, 415/960-1300.

NEC Introduces New Intel-Compatible Chip

Feeling that its legal position against Intel is strong, NEC introduced a new chip in the V30 family, the V33, which runs four times faster than current V30 chips. The V30 is a 16-bit microprocessor that works almost identically to Intel's 80286 chip, the CPU for IBM PC-ATs, AT clones, and the most popular models in IBM's PS/2 series. In a suit begun in 1984, Intel claims that NEC's chips are illegal copies of Intel's designs. Since the V33 is much faster than the current crop of 80286 CPUs, its presence will put pressure on Intel to beef up its 80286 line. The V33 will be available to manufacturers in sample quantities within a few months and in production quantities by the end of this year. NEC, 415/960-6000.

Apple Loses Ground In Bid To Stop Brazilian Mac Copy

A federal judge in Brazil has allowed a computer manufacturer to continue to import parts in order to make a copy of Apple's Macintosh 512. Unitron was recently prohibited by the government's computer regulatory commission, SEI, from manufacturing the computer. Unitron admits that the computer is a direct copy of Apple's product, including direct copies of the system software and ROM chips. The judge's ruling appears to be on a technicality, but it reflects Unitron's claim that the SEI's rejection of its application to manufacture the computer was based on politics instead of technical issues. The United States has threatened trade sanctions against Brazil if Unitron is allowed to manufacture the Mac copy, and it is widely believed that the U.S. will follow through on the threats to set an example for other advancing third-world countries. Apple hopes to reverse the federal court ruling in the near future.

Autodesk Acquires Xanadu

Hypertext may be going legit. In a move that surprised almost everyone, Autodesk (makers of *AutoCAD* and related products) purchased 80% equity in Xanadu and announced that they expect to have commercial products available in less than two years. Xanadu, led by Ted Nelson, is developing a hypertext system that allows universal access to linked documents (see the April *MicroTimes* for a lengthy interview with Nelson). Although hypertext is far afield from Autodesk's computer-aided design packages, Autodesk sees the acquisition as a good move. It is likely that Xanadu concepts will appear in future *AutoCAD* packages; for example, you might be able to select a subassembly in an object and instantly find the drawings for that subassembly.

Xanadu is also very happy with the deal. The cash infusion will help Xanadu in the final steps of commercialization of the technology, which has been slowed due to lack of resources. Xanadu will operate independently from Autodesk, although Autodesk executives will sit on the Xanadu board of directors. The first product from Xanadu will be a preliminary version of the Xanadu Hypertext System for research groups and front-end developers. Autodesk, 415/332-2344.

Xerox "Secure" Network For Navy Apparently Not So Secure

In an embarrassing admission, the Navy has acknowledged that the local-area network LAN security system being installed in workstations on many Navy ships can be easily penetrated by anyone attaching their computer to the LAN. The sec-

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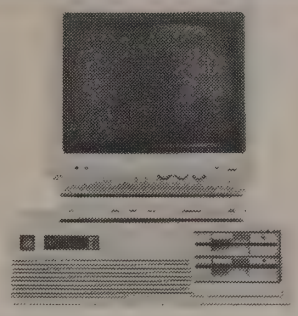

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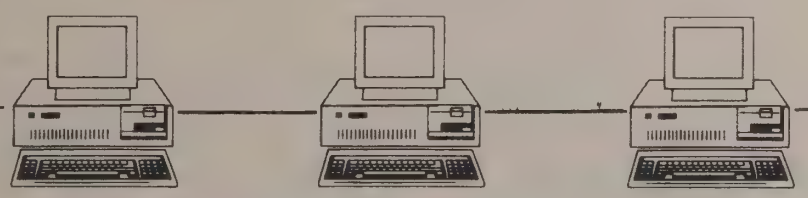

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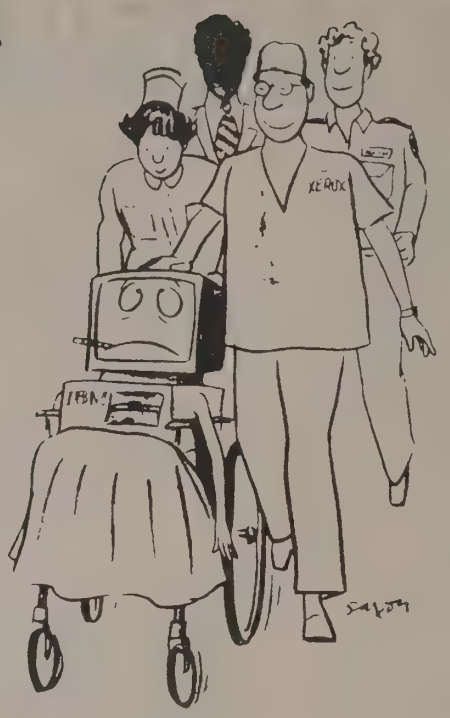

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urity breach, first reported in *Government Computer News*, affects the $36 million Fleet Word Processing contract for 5000 workstations and secure LANs on the entire Navy fleet. The security was supposed to come from the LAN connection board in the workstations which require an authorized user identification and password to be used before the user could have access to files across the LAN. However, if the user attached to the LAN with a standard LAN board, they had free rein with the data on the LAN. The LAN is already in place on many ships, according to a Xerox representative.

After being alerted to the problem, the Navy has claimed that it is a minor "anomaly" and can be circumvented by encrypting the data used on the LAN. However, according to Xerox, no encryption mechanism is in place and the Navy has not requested one. The *Government Computer News* article quotes security experts as saying that such security breaches are not uncommon in government LANs. *Government Computer News*, 301/445-4405.

Fifth Generation Systems Will Distribute Software Supply Programs

One of the highly-regarded small Macintosh companies just got smaller. Software Supply, manufacturer of *Suitcase* and *Power Station*, reached an agreement with Fifth Generation Systems, manufacturer of *Fastback* for the IBM PC and Macintosh, which allows Fifth Generation to distribute all Software Supply products. According to Steve Brecher, president of Software Supply, he did this so he could spend more time developing software rather than marketing it. *Suitcase* and *PowerStation* have won numerous awards and have had healthy sales. Brecher says that he'd prefer to deal with "technical challenges rather than issues of sales, marketing, and finance." Fifth Generation Systems, 714/259-0541.

Software Publishers Association Awards Best In Software

The rapidly-growing Software Publishers Association (SPA) announced their Excellence in Software awards at their recent annual meeting. The awards were based on votes by the 320 SPA member companies. More than half of the awards went to Macintosh software, although there were no categories based on machine for the awards. The winners of the best in each category were:

Business Awards

Vertical market application — *VideoWorks II* (MacroMind)
Utility — *Focal Point* (Activision)
Add-on — *Focal Point* (Activision)
Programming tool — *Dan Bricklin's Demo II Program* (Software Garden)
Business productivity — *Adobe Illustrator* (Adobe Systems)

Home/Entertainment Awards

Personal productivity — *MacInTax Federal 1986* (SoftView)
Creativity — *VideoWorks II* (MacroMind)
Simulation — *Falcon* (Spectrum HoloByte)
Action/Strategy — *Ancient Art Of War At Sea* (Brøderbund) and *Falcon* (Spectrum HoloByte)
Adventure or Fantasy/Role Playing — *Leisure Suit Larry In Ihe Land Of The Lounge Lizards* (Sierra On-Line)
Best Entertainment Program — *Jam Session* (Brøderbund)

continued on page 23

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- **STRIP POKER (148)** - Pick your female opponent & watch out. CGA required
- **X-RATED PRINTMASTER (149)** - X-Rated graphics for Printmaster Plus.
- **X-RATED PRINTSHOP (150)** - X-Rated graphics for Printshop.
- **BAD-BAD (289)** - Naughty adventure game. CGA required
- **ASTRO-[bleep] (297)** - Dirty arcade game. CGA required
- **NASTY GIRL (435)** - The name says it all... CGA required.
- **MAXINE (497)** - Must see to believe ... CGA required, EGA suggested.
- **X-RATED COLOR SHOW (496)** - Some lovely ladies. CGA required, EGA better

BUSINESS

- **EZ-FORMS Rev. C.24 (66)** - Menu driven forms generator, misc. skeleton forms.
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- **PC-PAYROLL V2.3 (464)** - Menu driven payroll system: 100 employees or less.
- **RENTAL PROPERTY (318)** - Keeps track of rental activity. Menu driven.
- **SLICWORKS (321)** - Framework clone. Integrated database, spreadsheet, word processor, & communications.
- **PARTS INVENTORY CONTROL (479)** - Tracks inventory of a parts & service business; qty. ordered, supplier, etc.
- **DOCKETMINDER V1.2 (448)** - Maintain docket for lawyer or law firm.
- **FINANCE MANAGER V4.0 (77)** - Accounting package for business or personal finances. Double entry system.
- **SOAR V1.92 (449 & 450)** - (2 disk set) Accounts receivable program. Handles a variety of services or products.

COMMUNICATIONS

- **RBBS BULLETIN BOARD V15.1 (290 - 292)** - (3 disk set) Turn your computer into a RBBS. Industry standard.
- **QMODEM V3.1 (293 & 294)** - (2 disk set) Full featured modem program. 200 number dialing directory, etc.
- **PROCOMM V2.42 (53 & 54)** (2 disk set) Menu driven modem program, excellent documentation; still one of the best.
- **BOYAN VD3 - (467)** - Modem program that has received great reviews by all.

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- **WAMPUM V3.1B (37 & 38)** - (2 disk set) Menu driven dBase III clone, supports functions of dBase. Knowledge of dBase suggested. Latest update.
- **PC-FILE + V2.0 (493 - 495)**- (3 disk set) Full-featured database; help screens, menus, macros. One of the best.
- **DBASE III UTILITIES (349)** - Contains utilities for household inventory, C language & Desktop, etc. dBase III req.
- **dGENERATE V1.0 (511)** - Screen & source code generator by Tom Rettig. dBase III required.

EDUCATION

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- **BEGINNING SPANISH (121)** - Teaches vocabulary, phrases, etc. Basic required
- **THE WORLD 3D (127)** - Display maps of the world. CGA required
- **FUNNELS & BUCKETS V 2.0 (130)** - Great learning game; add, subtract, multiply, & divide. Ages 5 - 10.
- **ERYN'S ABC'S (131)** - Teaches alphabet & numbers. Computerized Etch-a-Sketch. Ages 2 - 6. Basic required
- **MATH-WHIZ (188)** - Teaches various math operations. Ages 5 and up. You choose the level. Basic required.
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EGA PROGRAMS

- **EGA RISK (216)** - The game of world domination. Also contains EGA Roids.
- **EGA UTILITIES/1 (260)** - EGA demos, change fonts & size of letters, etc.

GAMES

- **SLEUTH V4.1 (89)** - Murder mystery game similar to the board game "CLUE".
- **BLACKJACK (95)** - Advanced blackjack game with tutor, multiple players. Best one yet. CGA or Hercules.
- **MONOPOLY V6.7 (106)** - Just like the board game, 2 to 4 players. CGA req.
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- **LAS VEGAS (116)** - Craps, Roullete, Poker, & more. CGA req., Basic on some.
- **3D CHESS V1.01 (215)** - Excellent chess game. Switch between 2D & 3D.
- **SAM SPADE V1.0A (226)** - Great detective game. Mazegame; creates mazes.
- **SOLITAIRE (211)** - 4 different games. Nice graphics. CGA required.
- **SUPER PINBALL (212)** - 5 different games. CGA required.
- **WORDPLAY (367)** - Wheel of Fortune clone. You provide the prizes. CGA req.
- **HANGMAN (91)** - 2 versions of the ever popular game & learning tool.
- **DIGITAL LEAGUE BASEBALL (344)** - Pick your team & players. Nice graphics.
- **MINIATURE GOLF (505)** - 18 hole golf course with graphics.

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- **PC-ART V1.0 (199)** - Paint program, easy to use. CGA required.
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- **PRINTSHOP GRAPHICS (320)** - 3 more libraries of graphics for Printshop. Requires Printshop.
- **STREETS ON A DISK (437) - DEMO** Program. Map of LA county & various points of interest. CGA or EGA required.
- **CAD CURVE DIGITIZER (339 & 340)** - (2 disk set) Excellent all purpose CAD program. Requires CGA or EGA. **Order Disk #'s 351 & 352 for Hercules Mono.**
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- **EGA TROPICAL FISH (427)** - An aquarium on your computer screen. EGA required. Also contains CGA fish program.

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- **TURBO "C" TUTOR (489 & 490)** - (2 disk set) 14 lesson tutorial ; learn to program in "C" language.
- **"C" LANGUAGE V2.1 (299 & 300)** - (2 disk set) Complete programming environment. Source, compiler, samples.
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- **TURBO PASCAL TUTOR (20)** - 17 lesson tutorial with samples, etc.

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- **STRESS & SHRINK (74)** - Stress - stress test. Shrink - personality analysis.
- **HORSERACING (343)** - Handicapping for thoroughbreds.
- **FAMILY TIES V1.15 (154)** - A genealogy program for the amateur or pro.
- **ASTROLOGY V9.5 (284)** - Read your own chart from stars, moon, etc.
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- **TIMESAVER (442)** - Create daily/monthly calendar of appointments.

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- **LASERJET FONTS / II (471 & 472)** - (2 disk set) More downloadable fonts for HP Laserjet Plus/II. Helvetica, Script, etc.
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UTILITIES

- **DISK COMMANDO V2.0 (218 & 219)** - (2 disk set) Norton Advanced Utilities clone. Too many features to list.
- **SIM-CGA (220)** - Great for most programs that need color (CGA) to run
- **DOS HELP (255)** - Help screen for DOS commands, functions & batch files at your fingertips. For DOS 3.XX
- **DOS TUTORIAL V4.2 (256)** - Menu driven tutorial that teaches DOS commands, terms, & functions. A MUST.
- **BEGINNERS (257)** - The basics of using most public domain software
- **LIST V6.2A (274)** - Best utility for viewing documentation or any ASCII file.
- **PC MAGAZINE (277)** - Over 30 great utilities, rated by PC magazine.
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- **AUTOMENU V4.01 (280)** - Access programs, batch files, DOS commands, etc. Best shareware menu program.
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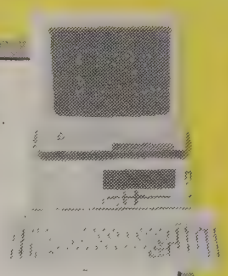

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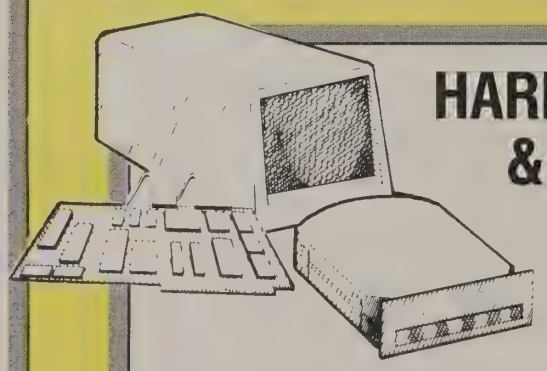

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continued from page 18

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Middle or Secondary School — *Decisions, Decisions Series* (Tom Snyder Productions)
Higher Education — *Business Week's Business Advantage* (Reality Technologies)
Home Learning — *Mavis Beacon Teaches Typing* (Software Toolworks)
Best Educational Program — *Designasaurus* (Britannica/DesignWare)

General Awards

New Use of a Computer — *Jam Session* (Brøderbund)
Sound — *Jam Session* (Brøderbund)
User Interface — *Business Class* (Activision)
Graphics — *Adobe Illustrator* (Adobe Systems)
Network Software — *In Box/PC* (Symantec)
New Version — *Ready, Set, Go!* (version 4) (Letraset)
Technical Achievement — *Falcon* (Spectrum HoloByte)
Packaging — *Ancient Art Of War At Sea* (Brøderbund)
Best of the Best — *Adobe Illustrator* (Adobe Systems)

New Program Determines Contents Of Programs, BIOS

V Communications used the West Coast Computer Faire to announce a new program which lets you look at the code in programs and even the BIOS of your computer. *SOURCER* reads any program for MS-DOS and produces a commented assembly-language equivalent of the program. It can read .EXE and .COM files and create listings showing all the components in the programs. The program should be a boon to programmers who normally use debuggers to determine how a program runs, since *SOURCER* adds profuse comments to the listing it produces. The BIOS-preprocessor add-on program lets you look at the code in the BIOS of your computer. *SOURCER* costs $100, and the BIOS pre-processor is an additional $40. V Communications, 408/296-4224.

The Case of Apple Vs. Microsoft And Hewlett-Packard

The ethical and business questions behind Apple's suit against Microsoft have been hotly argued since the day that Apple announced the suit. What is Apple trying to do? How will this affect other software companies? Should Apple own the "rights" to the Macintosh interface? Did Microsoft copy the Macintosh interface in its *Windows 2.03* product? What about Apple's previous agreements with Microsoft?

Often ignored, however, is the fact that this is a legal case and it will eventually be settled or decided on legal issues. Certainly, there is a major public relations aspect to the case: Apple told the press about the suit before it told Microsoft. Apple sent copies of the suit to the press with the press release about the suit; Microsoft responded by doing the same thing in its response last month. Bill Gates has been widely quoted as being "confused" about the suit. However, since neither side has acknowledged that any out-of-court settlement is imminent, it is likely that the legal issues in the suit will soon become important.

Apple filed its complaint on March 17 in the U.S. District Court in the Northern District of California. The complaint was equally against Microsoft and Hewlett-Packard, although most of the publicity has focused on Apple and Microsoft; the complaint is titled "Complaint for Copyright Infringement and Unfair Competition." Hewlett-Packard used a Microsoft product (*Windows 2*) to create its New Wave operating environment. As of press time, Hewlett-Packard has not made a legal response to the suit. Microsoft responded three weeks later with "Defendant Microsoft's Answer, Affirmative Defenses, and Counterclaims." The text of both the complaint and Microsoft's answers is available on many computer networks such as CompuServe, the WELL, and BIX.

Apple claims that Microsoft has infringed against Apple's copyrighted audiovisual works as well as the programs which embody those works. Thus, the case is basically a copyright case. The copyright that Apple is claiming is for the "visual display and images generated by the Macintosh computer programs." Apple claims that it is the owner of the copyright and that the display and images "substantially consists of material wholly original with Apple." The audiovisual works in the case are the Lisa, Macintosh Finder, *LisaDraw*, *MacDraw*, *MacPaint*, *Lisa Project*, and *Mac Project*. Apple claims copyright to those audiovisual works as well as to the programs "that embody the audiovisual works." Apple claims that that Microsoft copied and adapted the audiovisual works and that Microsoft was unauthorized to do so.

Microsoft claims that such images are not copyrightable since they are common and that they did not originate with Apple. They accuse Apple of confusing the programs that create the displays with visual displays themselves. Further, Microsoft claims that it was authorized by Apple to copy the Macintosh display In their 1985 agreement (see last month's *MicroTimes*), Microsoft acknowledged that the visual displays in *Windows 1* were derived from the Macintosh; however, they did not say that Apple owned the copyright to Macintosh displays. Microsoft also claims that

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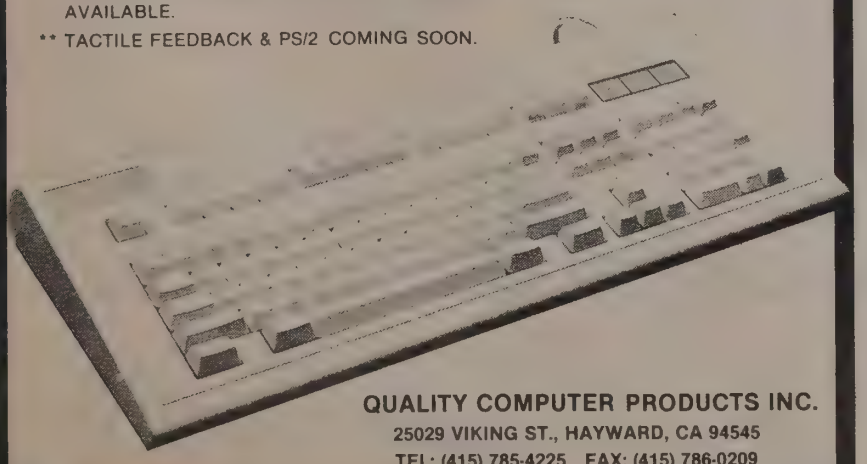

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Apple has lost no money due to the existence of *Windows 2* and denies Apple's accusation of unfair competition. Visually, *Windows 2* is almost indistinguishable from *Windows 1*. The only major visual difference is that the windows in version 2 can be overlapped while in version 1 they could only be side-by-side.

In its counterclaim, Microsoft accuses Apple of breach of the 1985 contract, of hurting it by publicly repudiating the contract, and of hurting it by going public with the lawsuit before telling Microsoft.

The case law that some visual displays generated by a computer program is very clear. In the early 1980's, the decision in the *Atari, Inc. v. North American Phillips Consumer Electronics Corp* case (better known as the "*PAC-MAN*" case) set down the rule that a program which has a similar but not identical visual display could be considered a copy of an earlier program. However, in order to prove that one program infringes on another, the similarity must be in areas that are also protectable. Since displays are copyrightable but ideas are not, the similarity must be in an area that is inherently a visual part of the program, not an "action" part. The *Brøderbund, Inc. v. Unison World* case followed that logic by stating that as long as there is a wide range of possibilities of expression, any expression that was substantially the same as an earlier expression could be considered a copy.

Interestingly, Microsoft denies that the major reason for the Macintosh's popularity is its user interface. In what may be an act of puffery, it also claims that *Windows* is "the preferred graphic user interface on the IBM PC" and compatibles.

The crux of the arguments in the case revolve around items 9 through 15 in Apple's suit. Each of these items from the complaint and the answer is shown here.

Apple:
9. The Macintosh computer programs generate a series of fanciful visual displays and images appearing on the computer screen, whereby the user, by using a cursor control device (i.e., "mouse"), can communicate with the computer. Apple has expended millions of dollars and years of creative effort in the development of artistic, aesthetically pleasing visual displays and graphic images that enhance the value and commercial appeal of Apple's products. The development started with Apple's work on the Lisa computer and continued through the extensive development efforts on the Macintosh. As a result of this major investment, the distinctive expression represented by the visual displays and graphic images generated by the Macintosh computer programs is widely recognized as a hallmark of the Macintosh computer system.

Microsoft:
9. Admit that Macintosh computer programs listed in (h)-(m) of Paragraph 10 of the complaint (hereinafter referred to as the "Macintosh computer programs") generate visual displays, including graphic images, on the microcomputer screen. Deny that such displays are fanciful or distinctive or a "hallmark of the Macintosh computer system." Admit that Macintosh users may communicate with the computer by use of a "mouse." Admit that Apple has expended resources on the Macintosh computer programs. Deny for lack of knowledge or information all other averments in Paragraph 9 of plaintiff's complaint.

Apple:
10. The visual displays and images generated by the Macintosh computer programs are protected audiovisual works under the Copyright Act. Apple is the owner of the following copyrighted audio-

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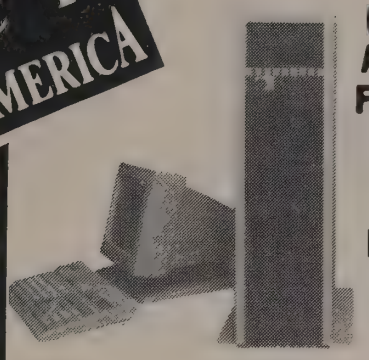

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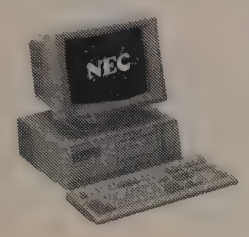

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visual works, each of which substantially consists of material wholly original with Apple and is copyrightable subject matter under the Copyright Act:

(a) Lisa, Reg. No. PA 336 104, effective May 1, 1987 (Exhibit A).

(b) Macintosh Finder, Reg. No. PA 336 105, effective May 1, 1987, a derivative work based on Lisa (Exhibit B).

(c) LisaDraw, Reg. No. PA 336 103, effective May 1, 1987 (Exhibit C).

(d) MacDraw, Reg. No. PA 336 102, effective May 1, 1987, a derivative work based on LisaDraw (Exhibit D).

(e) MacPaint, Reg. No. PA 336 107, effective May 1, 1987 (Exhibit E).

(f) Lisa Project, Reg. No. PA 336 106, effective May 1, 1987 (Exhibit F).

(g) Mac Project, Reg. No. PA 336 101, effective May 1, 1987 (Exhibit G).

Further, the computer programs that embody the audiovisual works are protected literary works under the Copyright Act. Apple is the owner of the following computer programs, each of which substantially consists of material wholly original with Apple and is copyrightable subject matter under the Copyright Act:

(h) Macintosh Finder 1.0, Reg. No. TX 2 130 713, effective August 25, 1987 (Exhibit H).

(i) MacDraw 1.7, Reg. No. TX 2 130 712, effective August 25, 1987 (Exhibit I).

(j) MacPaint 1.0, Reg. No. TX 2 130 711, effective August 25, 1987 (Exhibit J).

(k) MacProject 1.0, Reg. No. TX 2 130 714, effective August 25, 1987 (Exhibit K).

(l) Macintosh ROM, Reg. No. TX 2 130 714, effective September 12, 1985 and supplemental registration, Reg. No. TX 2 043 375, effective April 14, 1987 (Exhibit L).

(m) Macintosh Plus ROM, Reg. No. TX 1 862 601, effective August 5, 1986 (Exhibit M).

Collectively the above works are referred to herein as the "works in suit" or the "Macintosh audiovisual works."

Microsoft:
10. Admit that Apple received Certificates of Registration for the referenced works in suit. Deny that the visual displays, including graphic images, generated by the Macintosh computer programs substantially consist of material wholly original to Apple or are copyrightable subject matter under the Copyright Act. Plaintiff's attempt to define all works referred to in Paragraph 10 of its complaint as "Macintosh audiovisual works" is an attempt by Apple to cause confusion in this litigation and in the microcomputer software industry in general. Six of the referenced works are microcomputer programs, not audiovisual works, and three of the referenced works are for the Lisa computer system, not the Macintosh. Defendant hereby objects to any attempt to define the sum of the works in Paragraph 10 of plaintiff's complaint.

Apple:
11. At all times, Apple has been and is the sole owner of all rights, title and interest in the works in suit. For each work Apple has complied in all respects with the Copyright Act and all other laws of the United States governing copyrights, and has received Certificates of Registration from the Registrar of Copyrights.

Microsoft:
11. Admit that Apple has received the referenced Certificates of Registration from the Register of Copyrights. Deny all other averments in Paragraph 11 of plaintiff's complaint.

Apple:
12. Hewlett-Packard sought a license from Apple for the Macintosh audiovisual works which, on information and belief, Hewlett-Packard intended to use in connection with computer programs that would generate visual displays and images. Apple declined to grant a license to its Macintosh audio visual works. Plaintiff is informed and believes, and on that basis alleges, that nonetheless Hewlett-Packard has developed a computer program called "New Wave" which embodies and generates a copy of the Macintosh audiovisual works. New Wave must be used in conjunction with a computer program sold and distributed by Microsoft known as "Windows 2.03." On information and belief, Hewlett-Packard is licensed by Microsoft for the use of Windows 2.03 in connection with New Wave. As used herein, the term "New Wave" includes any and all visual displays and images generated by Windows 2.03 when operating in conjunction with New Wave. The term "Windows 2.03" is used herein to include all versions or revisions of that product.

Microsoft:
12. Admit that Hewlett-Packard has developed a computer program called "New Wave." Admit that New Wave may be used in conjunction with a microcomputer program distributed by Microsoft known as "Windows." Admit that Hewlett-Packard has licensed Windows 2.03 from Micro-

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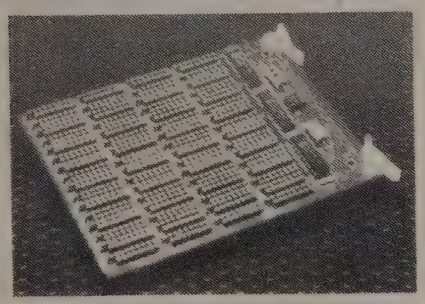

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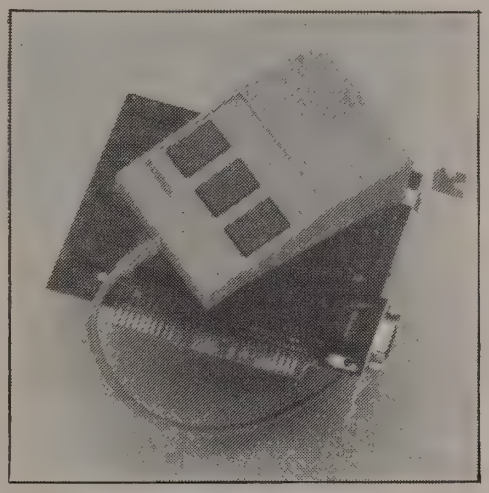

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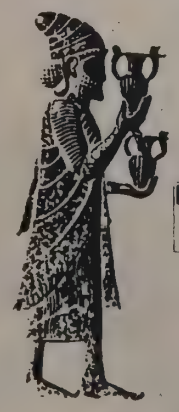

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soft. Plaintiff's attempt to define the product name "New Wave" to include any and all visual displays, including graphic images, generated by Windows 2.03 is an attempt to cause confusion about the responsibilities of the various parties. These programs are produced and marketed by separate and distinct companies. Plaintiff should not be permitted to distort the meanings of the product names or to assume by definition that which it cannot prove. Defendant hereby objects to any attempt to include any visual displays, including graphic images, generated by Windows 2.03 in the definition of New Wave. Microsoft denies that Windows 2.03 infringes any alleged copyright held by Apple. Microsoft denies for lack of knowledge or information all other averments in Paragraph 12 of plaintiff's complaint.

Apple:
13. The visual displays and images generated by New Wave are illegal and infringing copies of the Macintosh audiovisual works and are unauthorized derivative works. Attached hereto are photographs comparing various visual displays and images generated by the Macintosh computer programs (Exhibit N1, N3, N5, N7, and N9) and screen displays generated by New Wave (Exhibit N2, N4, N6, N8, and N10). The similarity between New Wave and the Macintosh visual displays and images is so great that even the Hewlett-Packard product manager for New Wave in touting the product has conceded publicly that New Wave is "similar to the Macintosh." On information and belief, Hewlett-Packard had access to the Macintosh audiovisual works. Hewlett-Packard's copying and adaptation of the Macintosh audiovisual works in New Wave infringe Apple's exclusive rights under the Copyright Act.

Microsoft:
13. Deny that Windows 2.03 infringes any alleged copyright or other legal right held by Apple. Deny for lack of knowledge or information all other averments in Paragraph 13 of plaintiff's complaint.

Apple:
14. The visual displays and images generated by Windows 2.03 are themselves illegal and infringing copies of the Macintosh audiovisual works and are unauthorized derivative works. Throughout its development of Windows 2.03, Microsoft had access to the Macintosh audiovisual works. Microsoft's distribution and sale of Windows 2.03 and its copying and adaptation of the Macintosh audiovisual works exceed limited license rights granted to Microsoft by Apple and infringe Apple's exclusive rights under the Copyright Act.

Microsoft:
14. Admit that during the development of Windows 2.03 Microsoft had access to the visual displays, including graphic images, generated by the Macintosh computer programs. Deny all other averments in Paragraph 14 of plaintiff's complaint.

Apple:
15. Defendants' copying and adaptation of the Macintosh audiovisual works in New Wave and Windows 2.03 are unauthorized by Apple and constitute willful infringement of the exclusive rights reserved to Apple under the Copyright Act. By reason of defendants' acts of infringement, Apple has suffered and will continue to suffer, unless defendants' infringement is enjoined, irreparable injury that cannot be adequately be remedied at law. Because of such willful infringement, Apple is entitled to an award of its attorneys fees pursuant to 17 U.S.C. $505.

Microsoft:
15. Deny. □

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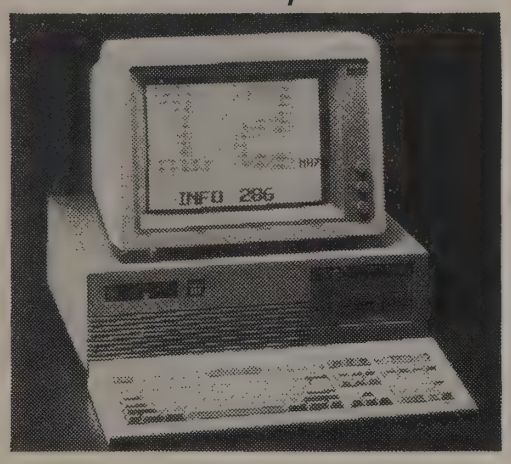

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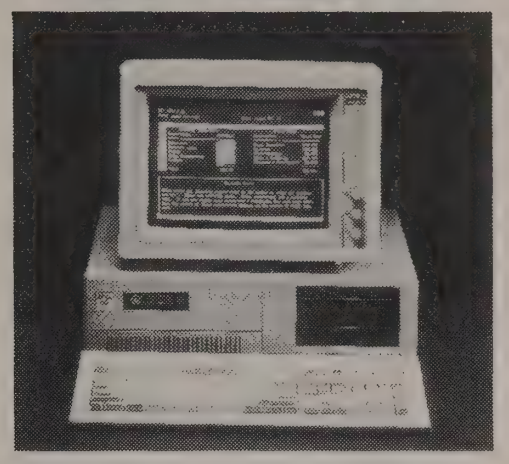

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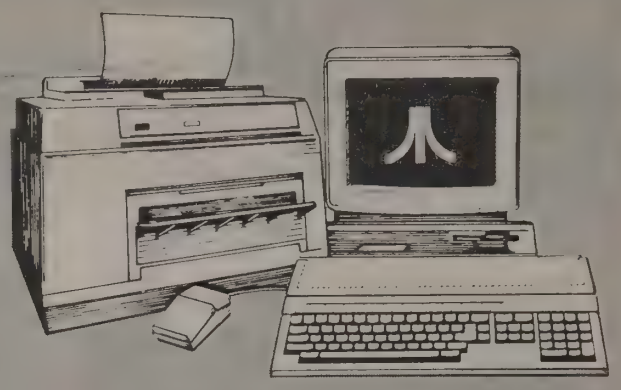

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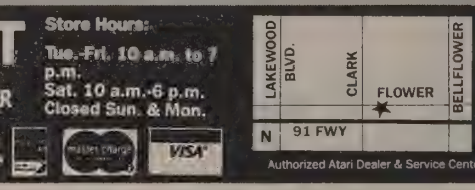

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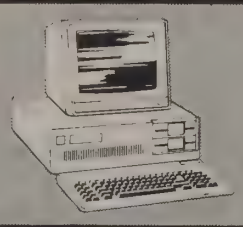

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REVIEWS

RECREATIONAL/ EDUCATIONAL

Grey Seas, Grey Skies (1987 edition)

Revision by: *Thomas A. Konczal*
Published by: *Simulations Canada*
For: *Apple II series (64K)*
List Price: *$60.00*
Reviewed by: *Mike Markowitz*

When it first appeared in 1983, *Grey Seas, Grey Skies* was probably the most accurate and thoughtfully designed *unclassified* computer game on modern naval warfare. Written in plain BASIC, with no graphics beside a title screen, and a ponderous menu-driven user interface, it did not have the makings of a commercial success. The players had to plot the positions of their ships by moving cardboard markers around on a big paper grid. The game could be played between two humans, or against a very capable computer "opponent." You could select one of seven ready-made scenarios, or construct your own, from a roster of 80 different ships and submarines.

Since *Grey Seas* was published, a lot of new Soviet, American and European ship classes and naval weapons have appeared. The game has been updated and expanded to include 200 ship types. The stars of the show are the new Soviet aircraft carrier, which reportedly will be named *Kremlin*, and the controversial future US Navy "Seawolf" attack submarine. Very small vessels (patrol craft, minesweepers, and missile boats) are now also well represented. The program files now take up both sides of a 5.25" disk, and many new options and variations have been added. Owners of the earlier version can obtain an update for $15. The update uses Diversi-DOS, an excellent high-speed operating system, to speed disk access. A Commodore 64 version also is available, but we have not seen it.

The game models the dilemmas faced by every ship commander: Do I light up my radar or turn on my active sonar to pinpoint the enemy (thereby revealing my own position)? Do I wait patiently, relying on passive sensors to gradually build up a fire control solution? Do I fire off all my missiles in one grand salvo, to swamp the enemy's defensive countermeasures, or should I fire one shot at a time to conserve scarce ammunition?

Each game "turn" represents six minutes of real time, including segments for radar search, sonar search, weapons status, fire control, and maneuvering orders. Due to the large number of calculations required during every turn, the game can become quite slow if more than about ten ships are involved. On the Apple IIGS the turns pass pretty quickly, but an accelerator card (or a large measure of patience) is advisable for owners of regular Apple IIs.

Modern warships have been described as "eggshells armed with hammers." The results of the Falkland Islands war of 1982 showed that one well-placed torpedo, bomb or missile could easily destroy a ship. The Persian Gulf war, however, seems to indicate that big ships are very hard to sink with small missiles. *Grey Seas, Grey Skies* gives results that are consistent with this ambiguous pattern. Sometimes one hit will sink a ship, at other times a burned-out hulk will remain defiantly afloat until the end of the game.

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320 - ENVELOPE PRINTER
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- record catalogue system by title
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1920 - PC JUKEBOX
- from Mozart to Starwars
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- Compose, edit & play on your PC

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- Biblical search program
2121 - HERITAGE CHURCH SYS.
- membership & cont. sys.

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1601 - PDTREK
- Public domain Star Trek game
1610 - ROGUE - adventure game
1621 - SPACE INVADERS - fun
1622 - 3D PAKMAN
- walka, walka, walka
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- trivia questions of the trek
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Grey Seas, Grey Skies belongs in the library of every comuter gamer interested in modern naval tactics. It is one of the few naval games that seriously considers nuclear weapons (a subject most North American naval writers prefer to ignore). If you have nuclear-armed missiles or torpedoes you can fire them, and they reliably destroy everything in the target area, but you pay a political penalty of 100 victory points. There is a rather startling reverse-video flash of the screen when a nuclear weapon detonates. The effects of electromagnetic pulse (which would fry most of the surviving radars and electronics for many miles around) are not modeled in the game.

If this classic game is ever redesigned, I hope the programmers recode some of the number crunching in assembly language to cut down on waiting time. There ought to be some way to put coastlines and variable water depths on the map. It would be nice to be able to design your own ships, or punch in ship data from standard reference books. Within the limits of 64K, a full graphic interface may be too much to hope for; but then sometimes the best graphic interface is the player's imagination . . . (Simulations Canada, P.O. Box 452, Bridgewater, Nova Scotia, Canada, B4V 2X6.)

Postcards

Created by: *Carol Manley*
Published by: *Activision*
For: *Apple IIe, IIc (64K); IIGS (512K)*
List Price: *$34.95*
Reviewed by: *Mike Markowitz*

Wacky postcards are a delightful part of American Folklore. Soon after the invention of photographic film, some comic genius discovered that negatives could be cut and pasted together to produce amusing, improbably combinations, like the jackalope (half jackrabbit, half antelope) or the tomato bigger than a railroad car.

Postcards is actually two completely different products. For the Apple IIGS it is simply a clip art disk for use with *PaintWorks Plus*, or any compatible graphics package. For 8-bit Apples, it is a stand-alone graphics program, with its own clip art files on both sides of a 5.25" disk. It is, in fact, the very same graphics program by Robert Clardy that was used in Activision's *Paper Models* last Christmas. It does *not* work properly on the IIGS version, for reasons I could not discover. It does, however, work correctly on the Laser 128 now.

With either product, you create a postcard by selecting a "scene" or background, and then pasting various people, animals or objects into it. The scenic possibilities include: Arctic, Beach, City, Country Road, Desert, Farm, Main Street, Moonscape, Mountain, Volcano, and Blank.

There are 11 buildings, 12 street signs, 11 "objects," 19 edibles, 28 people, nine vehicles and 42 animals. With no previous practice, I was able to design and print out three humorous postcards in 20 minutes. At least I thought they were humorous. Everyone else thought they were stupid and tasteless.

The IIGS version has much sharper resolution, as you might expect, and if you have a color ribbon for the ImageWriter II, the color printouts look pretty good. The package includes a glue stick and a stack of blank postcards so you can paste up your creations and mail them. The package, alas, does not include stamps. There is an order form if you need more blank postcards and are too lazy to cut them out of cardboard yourself.

The IIGS version of *Postcards* has two scenes on each "page" of graphics, so when you use *Paintworks Plus* you tend to get a second, unwanted postcard scene on your printout. The only way I could figure out to avoid this was to laboriously

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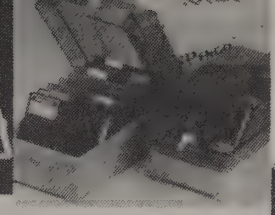
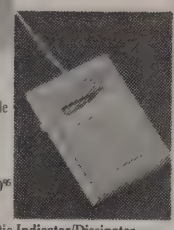
AG-105702	12" x 9½"
AG-105703	13" x 10 13/16"
AG-105704	12" x 8 13/16"
AG-105705	11⅜" x 8⅞"
AG-105706	12 11/16" x 7 13/16"
AG-105707	9⅛" x 7⅜"

NOTE: sizes shown are outer dimensions and include ¼" frame.



Deluxe 5¼" Diskette File
This disk file offers many features of more expensive products at a very low price. Made of high impact plastic with a smoked color locking lid. Stores 100 diskettes and comes with eight dividers and colored labels. Provides an easy access handle for transporting. DS-DX100L $10.95



Staticlear Static Indicator/Dissipator
This unique accessory virtually indicates and dissipates any harmful static the user might have before it charges through system components. A 10 foot long one megohm resistor grounding wire attaches to any 110 volt outlet. LCD display button dissipates it Putty in color, constructed of high impact styrene AS-450 ..... $24.95

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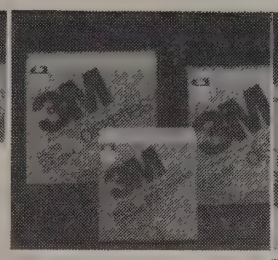
Move computer data between multiple peripherals with a flick of a switch or the push of a button! **Belkin Data Switches** do away with the need to move cables manually from, for example, a letter-quality printer to a high speed dot-matrix printer. With the two-position switch available in both rotary and push button models, the operator can switch a computer port between a printer and modem, or share a terminal with two computer systems. Four position rotary switches can connect up to four compatible devices to a fifth So, four computers can share one printer or four terminals can share a single modem. There is even a five position rotary model available. All Belkin Data Switches are available for Centronics (Parallel) or RS232 DB25 peripherals. Come in a fully shielded metal case. One year warranty.



The Sound Manager
Acoustical printer enclosure blocks out more than 90% of printer noise for just $130.

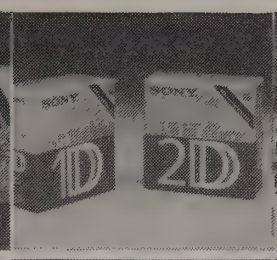
Quality materials, superior noise reduction and a low silhouette design make the Sound Manager enclosure the distinct, elegant alternative to bulky printer sound enclosures. Sound Manager lowers the printer sound level more than 20 dBA, significantly more than many other larger and more expensive sound enclosures currently on the market. Constructed of sturdy structural foam plastic, the unit is fully lined inside with thick, yet lightweight sound absorbing foam. A large angled tinted viewing window is set inside the high impact injection molded styrene top. Support legs are included to lift the unit three inches to accommodate a supply of paper underneath. Fits perfectly on top of the MicroManager. Inside dimensions are 7⅞" h x 24½" w x 16½" d.

And, it's available in a portable version, which includes a heavy duty carrying handle, lid clasps and nylon straps with release buckles to hold the printer securely in place while in transit. Also available is an optional 3" fan, easily installed with four screws.

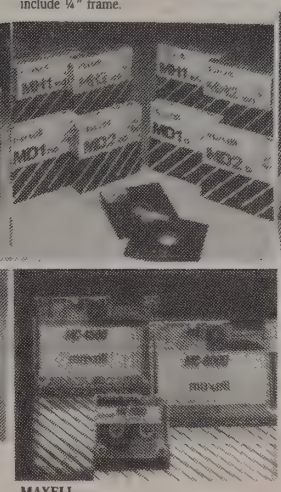
Stationary Sound Manager
DF-4000 ..... $129.95

Portable Sound Manager
DF-4010 ..... $149.95

Sound Manager Fan
DF 4020 ..... $69.95



Easy Drawer
Cantilever drawer holds a keyboard up to 2¾" h x 20" w x 9½" d. Drawer extends to locked position. Computer and CRT are supported by a baked enamel reinforced steel platform. DF-DT21 ..... $79.95



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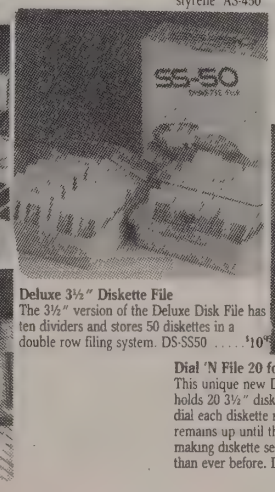
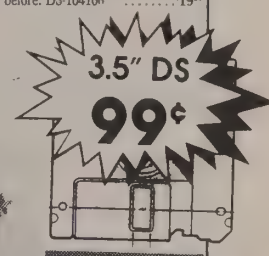
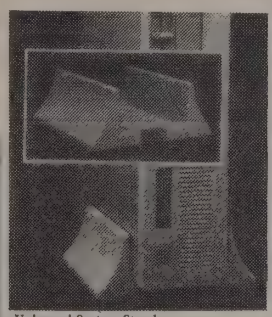
MC4500	TC-MC4500
Compatible with 3M DC300XL/P	
MC6000	TC-MC6000
Compatible with 3M DC600A	
MC6000HG	TC-MC6000HG
Compatible with 3M DC6000A/DC600XTD but built for 33% longer operating life	



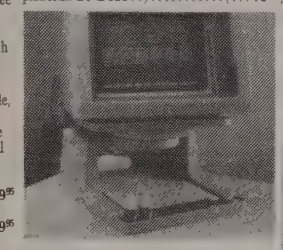
Deluxe 3½" Diskette File
The 3½" version of the Deluxe Disk File has ten dividers and stores 50 diskettes in a double row filing system. DS-SS50 ..... $10.95

Dial 'N File 20 for 3½" Diskettes
This unique new Dial 'N File 20 storage case holds 20 3½" diskettes, With a turn of the dial each diskette rises individually and remains up until the dial is turned again, making diskette selection or viewing easier than ever before. DS-104106 ..... $19.95

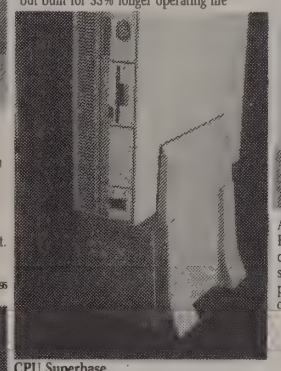




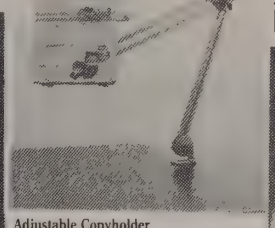
Universal System Stand
This System Stand adjusts from 4" to 7½" to accommodate almost any system unit. Constructed of high-impact ABS, it is colored and textured to match or complement all microcomputer systems. Lifetime warranty. DF-SS3 ..... $29.95



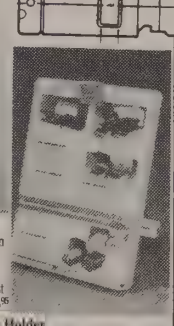
CRT Bridge
Three great features in one for a low retail price of just $49.95. A 12" w x 12" d x 5½" h platform lifts the CRT off the desk to clear room for other desktop items below. A 2" h swivel base attached to the top of the platform holds the monitor and provides 360 degree revolution and 12.5" up and down tilt. Finally, a 9¼" w x 11¼" d storage area under the platform holds off miscellaneous items. DF-480 ..... $49.95



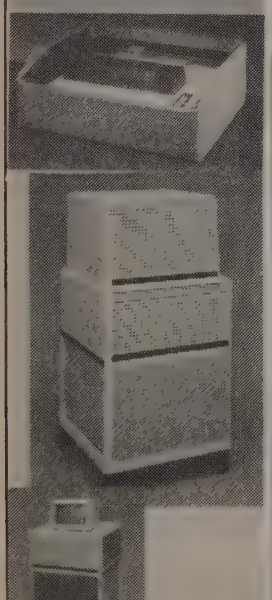
CPU Superbase
This unique stand vertically positions CPU next to the desk at an elevation of 9" for easy access disk drives. A built-in storage unit below is ideal for hiding a surge suppressor or excess cables. Holds CPUs 3¾" to 6¾" wide via adjustable support clamps. Constructed of beige high impact styrene. DF-665 ..... $54.95

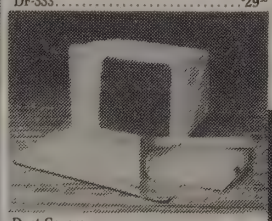


Adjustable Copyholder
Fully adjustable copyholder with flexible arm offers see-through line guide with three pitch settings and a non-magnetic clip to hold papers. The sturdy metal unit clamps to most desktops. DF-DT32A $36.95



Desktop Copy Holder
This desktop copy holder has a see-through detachable line guide and a non-magnetic clip to hold papers. DF-DT31A $14.95





Dust Covers
Dust covers by Attitype provide economical protection for computer components from dust, dirt, and spills. Covers are made of heavy duty anti-static vinyl with machine stitched vinyl seams and are available in one, two or three piece styles.

Pricing Code A $10.95
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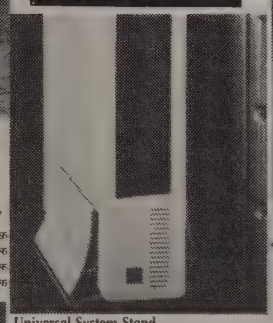
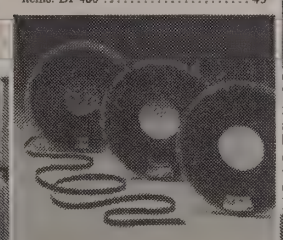


Universal System Stand
Gets the computer's bulky system unit off the desk and out of the way. Molded from high strength ABS plastic, this stand adjusts to provide solid support for any PC from 4½" to 6½" wide. Fits PCs from IBM, Apple, Compaq and others. DF-62200 ..... $29.95



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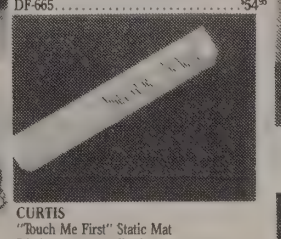

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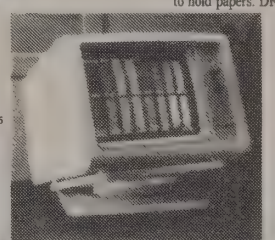

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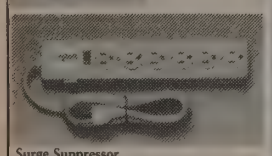
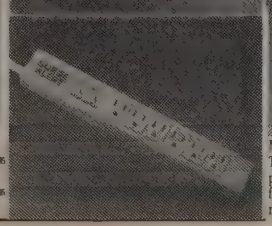
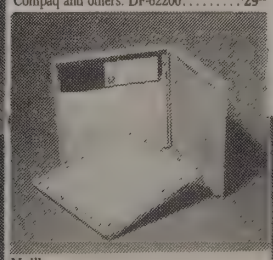


Surge Suppressor
Single Stage Protection, DG-115S
SS-DG115S $39.95
Three Stage Protection, DG-315S
SS-DG315S $69.95





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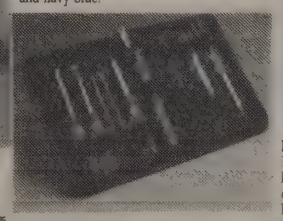
This anti-static mailer is made of durable plastic to protect diskettes in transit Holds five diskettes and comes with self-adhesive mailing label. DS-DX4 ..... $1.95



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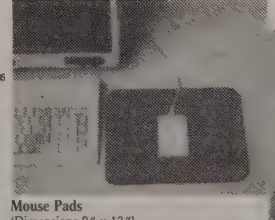

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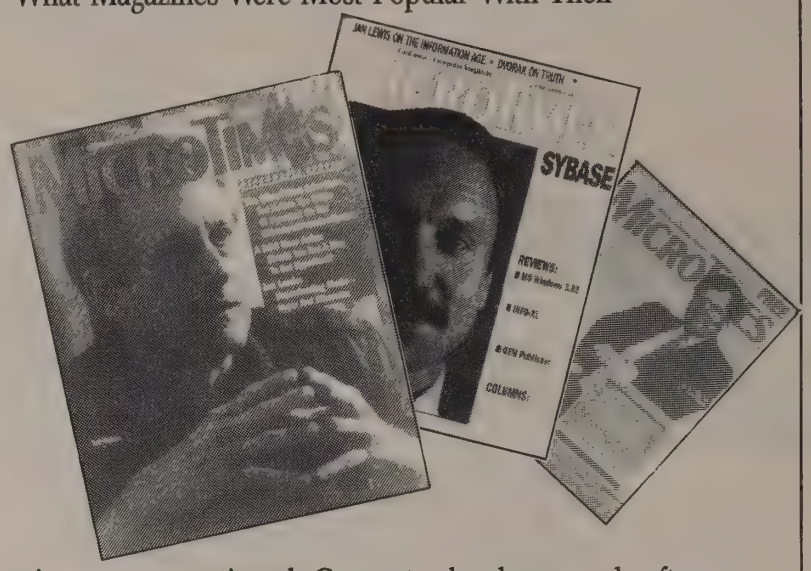
DS-103607 ..... $6.95

No Other Magazines Were Mentioned!

That's right! In a recent survey, the Copley Newspaper Group asked computer retailers in California, "What Magazines Were Most Popular With Their Customers?"

Here are the results:

1. PC Magazine
2. Byte
3. **MicroTimes**
4. MacUser
5. MacWorld
6. Lotus
7. Infoworld
8. Newsweek
9. Time



That's it. No other magazines were mentioned. Computer hardware and software retailers in California agree—there's only one local magazine their customers depend on. MicroTimes.

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erase the unwanted scene. Annoyingly, the size of the postcard is just a little bit bigger than the size of the working "window" in *Paintworks*, so you have to move around a bit. This was a sloppy design oversight that should have been caught in beta testing.

Nevertheless, *Postcards*, in either version, represents exactly the sort of silliness that most appeals to computer people. I had fun with it; and that's something I have never been able to say about any database program . . . (Activision, P.O. Box 7287, Mountain View, CA 94039 (415) 960-0518.)

Tetris

By: *Spectrum Holobyte*
For: *Commodore 64/128 ($24.95), IBM ($34.95 on 5¼" or 3½" disk)*
Reviewed by: *Sue Albert*

Can you beat the Russians? Since its introduction by Spectrum Holobyte of Alameda, *Tetris* has received a lot of media attention as the first known computer game designed in Russia to be marketed in the U.S. of A. Detente and brotherly love aside, are we ready to let little children play with this seemingly simple game, billed as addictive, but in reality closer to insidious? Is this another Russkie plot? I leave it up to you.

Sure *Tetris* looks innocent enough. The intro screen is kind of arty and the music is depressingly Russian. Nothing to worry about here. With your trusty joystick you choose a game level from 0 to 9 and can mercifully toggle sound effects instead of music during play. The play screen action takes place on a central black panel surrounded by some rather well done, if boastful graphics, of Russia's pride, Red Square on May Day, the manned space probe, and the Olympic hockey team (Ouch! that hurt!), but O.K. We can take it! Let's play!

Starting with the 0 level of play, one of six colorful shapes, a variation on four squares, slowly drifts at random down the central playing panel. With the joystick you can rotate and align it, and with a pull on the stick quickly place it at the bottom of the pit. You score points for speed, but the object of the game is to fit the shapes so they form an unbroken horizontal line. As soon as you do this the line disappears with a sizzle giving you more space and time to build the minimum ten lines across that it takes to progress to the next, faster level.

When the panel is filled you go to the next screen, or if you haven't finished ten lines, start over. A running status is shown over the graphic which gives your points scored, number of lines completed, and shows you the next shape to fall . . . but who has time to look? Even with the slowest level, as the pieces build closer to the top you have less and less time to make decisions.

Only the most disciplined will be able to leave this game after just one try. If this is a plot, it may have backfired because this game is possibly one of the most appealing shape recognition and reflex trainers I've seen. It would be an enjoyable educational tool for the ablebodied and "invisible" therapy for the handicapped. Maybe they just want to distract us while they buy all our Levi's with the profits?

There are some variations between the Commodore and IBM versions, but nothing that takes away from the pleasure of the game. Both allow you to pause play and restart with a keystroke. The IBM version has a toggle for the preview of pieces, lets you start the pieces falling from five different heights, and keeps a running score of how many times a shape has appeared in one game.

So is it a plot or just shared playfullness? Send your highest score to the Kremlin. Let's get the cold war on a saner level.

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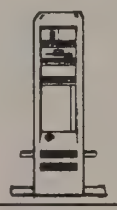

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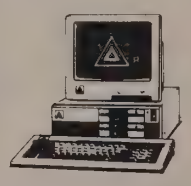

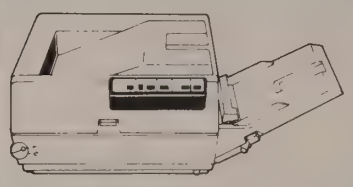

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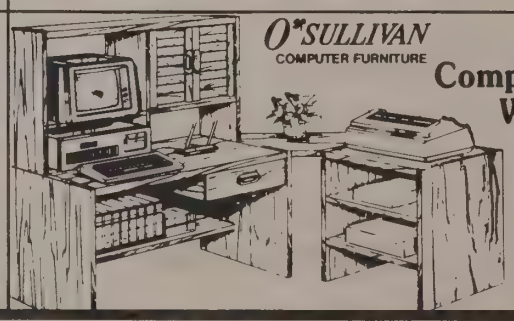

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1	2	TurboTax
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8	4	Paradox
5	5	FormTool 2.0
6	6	Quattro
7	7	Turbo C
9	8	Dac-Easy Accounting
–	9	RightWriter
12	10	Carbon Copy
4	11	Managing Your Money
–	12	Lucid 3D
15	13	Flow Charting II
–	14	Printmaster Plus
10	15	MathCAD

UTILITIES—MS-DOS

Last Month	May	
1	1	Norton Utilities Advanced
3	2	Direct Access
10	3	Norton Utilities 4.0
4	4	PC Tools
2	5	XTree Professional
6	6	Fastback Plus
–	7	LapLink Plus
5	8	Sideways
8	9	DESQview
7	10	Mace Utilities
14	11	Disk Technician Plus
11	12	Print Q
13	13	Q Dos II
15	14	XTree
9	15	Disk Optimizer

MACINTOSH

Last Month	May	
4	1	Suitcase
–	2	QuicKeys
3	3	Superpaint
1	4	MacinTax
–	5	Beyond Dark Castle
2	6	Mac Money 3.0
–	7	Mindwrite
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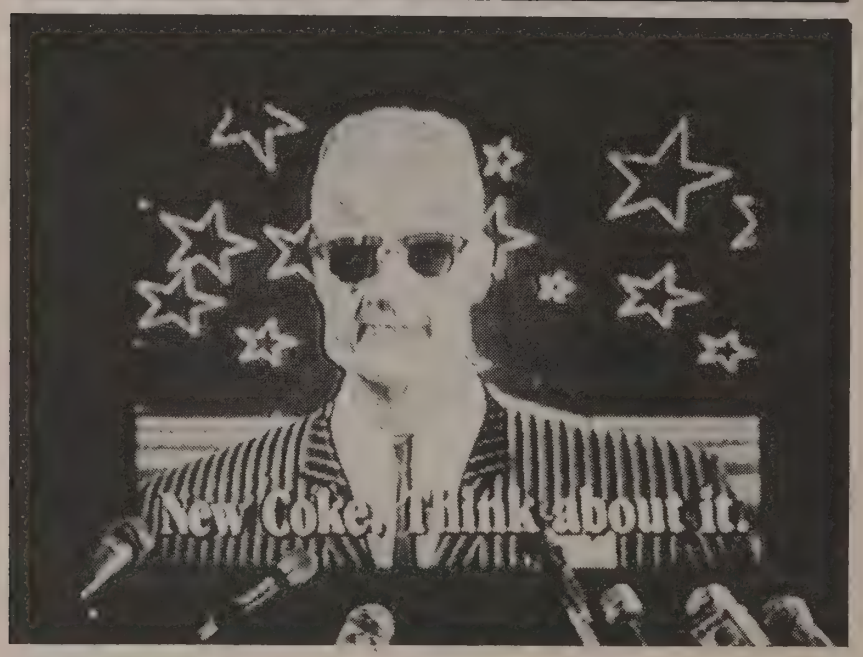
The Power Of Desktop Video

By Ben and Jean Means



An Amiga was used extensively in the production of Max Headroom, proving that affordable video based on personal computer technology can be sophisticated and professional.

Once there were two firms competing for the same job. On the day of the big meeting, Mr. Smith went into the meeting full of confidence. He took out the proposal he'd done on his desktop publishing system and passed copies to all the board members. After a brief introduction, he dimmed the lights and showed some beautiful slides of his previous jobs and graphs of the savings his wares would yield. After asking a few questions, the board told him they were quite impressed, and he should hear from them soon. As he passed Mr. Jones in the lobby, he thought to himself, "Poor sap, he doesn't have a chance. All that money I spent on desktop publishing and 4000 line graphics slides is really going to pay off."

When his name was called, Mr. Jones strode jauntily into the boardroom. He too passed out his desktop published proposal and asked for the lights to be dimmed, but instead of showing slides, he played a video. Mr. Jones sat back and relaxed while his logo flew onto the screen. Soothing music filled the room as his taped voice described his range of services. 3-D animations illustrated the superiority of his product's design and graphed the savings they offered. A list of his previous clients scrolled across the screen, and as the music swelled, his logo reappeared and flew tumbling off into the distance.

The chairman stammered that he was very impressed, and when could Mr. Jones start installing his system? Jones smiled broadly and assured the chairman he could start delivery immediately!

Score: Desktop Video 1, Slides 0

Smith couldn't justify the cost of the expensive film recorder necessary to create his beautiful 4000 line slides. But Jones was able to create his entire desktop video production with consumer grade video gear and a low priced personal computer — the Commodore Amiga.

While Smith had to sweat out operating a slide projector while making a running commentary, all Jones had to do was put a tape in a VCR and hit play. As CEO of Aegis Development David Barrett says, "If you can walk into a presentation with a good videotape, you no longer have to be nervous. 'Do I look good? Do I have bad breath? Does the guy like me?' He can hate your guts! You can send someone he *does* like with your videotape and get your deal through...because you have the ability to mix music, video and computer visuals to get your point across."

This is the power of Desktop Video or DTV, which Stewart Bonn, Vice President of Electronic Arts' Creativity Division, defines as "the ability to do on a personal computer what video professionals do on pro video gear. What that gear does well is to display a lot of colors at a high resolution with the ability to move objects around on screen quickly and smoothly. Right now, most people think that if they want to communicate via video tape, they have to hire a professional and spend $25,000 to get their message out."

But this ability to mix video taped images, computer graphics, animation, music and narration on the desktop brings the power of Hollywood to your own TV.

While the Amiga is within the economic grasp of consumers and corporate businesses alike, it has broken spectacular new ground in Hollywood by bringing low cost computer graphics to network television. Production Designer Richard Lewis, who has used the Amiga on *Amazing Stories* and *Max Headroom*, says, "We looked at a lot of options when we were doing *Max Headroom*, but they were not cost effective answers. The IBM based systems had limited animation capability and lacked a large range of colors without getting into Targa boards and a lot of money. It's basically a Catch-22 with the IBM, where you can do it, but you're basically bypassing the computer and plugging into another computer which does the job. The host system just happened to be an IBM system; it worked, but it did have a limited color range. When we first started using it, our executive producer was always down on the set saying, 'Let's use a little greener blue.' Well, it didn't have a greener blue. We were never quite happy with it.

"There's a distrust of low cost technology in Hollywood in general. It took some major wars to get the Amiga accepted on the show. We checked every other alternative, and it kept coming back to the Amiga at that point in time as the solution that fit us the best. There were a ton of things we needed to do live on stage, and you don't just drag a high end Wavefront graphic workstation down to a soundstage."

Selecting A Desktop Video Computer

Desktop video begins with the choice of a graphics computer, and there are four primary elements to consider: NTSC compatibility, resolution,

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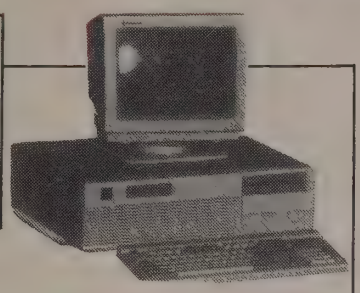

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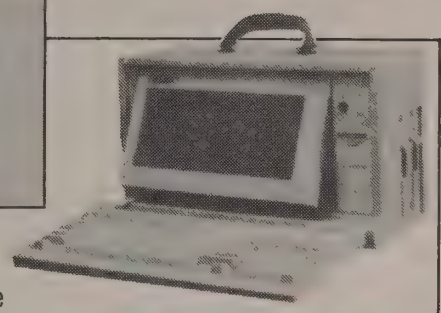

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color palette, and cost.

National Television Standards Committee (NTSC) encoding is the US standard for television and video and is a basic requirement in a graphics computer. All NTSC video is interlaced; this Interlace mode splits each video frame into an odd set of scan lines and an even set of scan lines. Then they are shot onto the screen sequentially 60 times a second to create 30 full frames per second. This roundabout display method was devised back in the Dark Ages of TV when the phosphors of the old TV sets couldn't retain an image for 1/30th of a second. By splitting the image into two fields, the fresh field could cover for the fact that the old field was fading. Phosphor technology has improved, but to maintain backwards compatibility, interlace is still with us.

An RGB computer image must be encoded to NTSC interlaced composite video before you can use it in professional video editing. Professional RGB to NTSC encoders run anywhere from $2,500 to $8,000, but the Amiga is the only personal computer that comes standard with NTSC output. The A500 and A2000 come standard with a monochrome NTSC out which upgrades to color with an optional $50 converter.

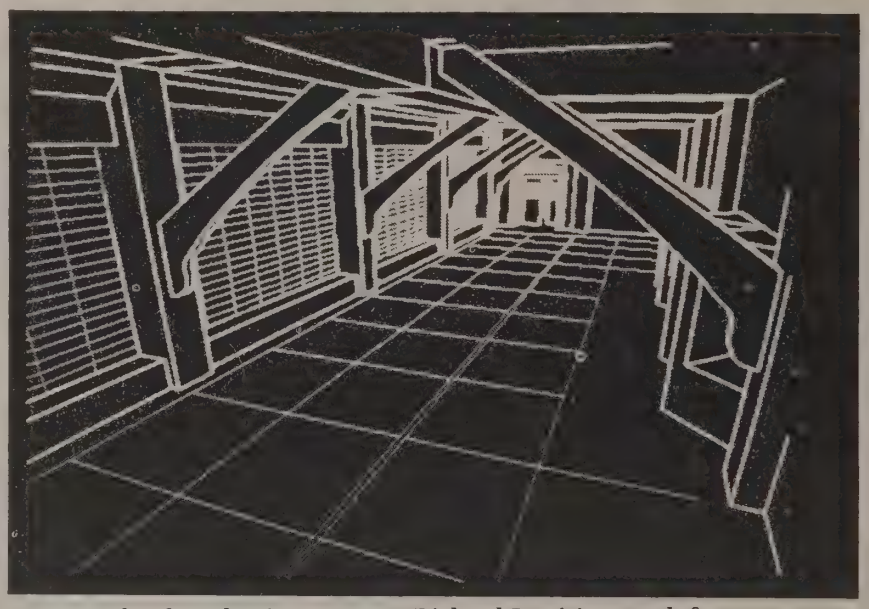
A high resolution produces a sharper image with less stairstepping or "jaggies." High end systems produce displays of 1024 x 1024 pixels and even higher which create smooth images with near photographic sharpness. The Amiga has two interlaced resolutions that are well suited to video: 320 x 400 with 32 colors on screen and 640 x 400 with 16 colors on screen both from a 4,096 color system palette.

These standard Amiga resolutions "underscan" the screen which leaves a rectangular black border around the graphic. This is acceptable for some low-end work, but for higher end uses, you need to use an "overscan" resolution to fill the entire video frame plus a little extra for safety. Many Amiga programs can output full overscan of 384 x 480 in lo-res interlace and 768 x 480 in hi-res interlace to bring your output up to full video frame size.

Both lo- and hi-res interlace have 480 pixels vertically; this is about all you'll ever need, since NTSC video can only display about that many lines of resolution. Unfortunately, VHS and Beta VCRs can only record and play back about 240 or so lines of resolution; even the best broadcast quality is only 330 lines on transmission. The new S-VHS VCR will give you the best possible resolution to tape in a consumer deck and its output of 400+ lines of resolution is still well within the Amiga's range. Of course if you're extremely picky about picture quality, you'll want to go to a 3/4" Betacam or a full 1" professional video bay, but then it's not desktop video any more.

The number of colors in the palette is as important as the resolution; a computer with a large palette can fool the eye into thinking it has a higher resolution by disguising the artifical appearance of jaggies as more realistic shading effects. Professional graphics computers have up to 32 bit color palettes with over four billion colors. These large system palettes eat up huge amounts of RAM and processing power, so a graphics computer will usually use a smaller display palette to speed things up; commonly used palettes on these high end systems range from eight bit (256 colors) up to 24 bit (16 million colors.) The Amiga is the only personal computer to offer a special Hold and Modify mode that offers all 4,096 colors on screen at once and in 320 x 400 resolution.

The cost of fully-outfitted pro graphics workstations starts around $50,000 and run up into the seven figure stratosphere, like the Cray supercomputer for $14 million. In the past, only full-time graphics houses could even think of doing computer graphics and animation. The affordable Amiga 500 systems were selling locally in mid-March for $1,200 to $1,300 with one meg of RAM, a 13" color monitor and two 3-1/2" 880K disk drives. The Amiga is ideal as a cost-effective choice for low-end broadcast and high-end industrial video output.



An example of production manager Richard Lewis' artwork for Max Headroom.

An Expert View Of Desktop Video

For Richard Lewis, the choice was obvious, "Not all work is appropriate to 24 bitplanes of color. What if you only need sixteen colors and 640 x 400 resolution? Why pay $100 an hour or more on a high end system, when for the same cost as renting ten hours on a high end system, you could buy an Amiga? People chronically never have enough money to do what they want to do. The Amiga frees up work which was previously done on high end systems because low end systems couldn't do it."

Stewart Bonn of Electronic Arts which produces software for the whole spectrum of personal computers, finds that only the Amiga and the Mac II have the processing power necessary for desktop video; he adds, "on the Mac II, you can display up to 256 colors; on the Amiga, you go up to as high as 4,096 colors. The Amiga has special blitter hardware to allow it to move things around quickly; the Mac II has a faster CPU."

David Barrett, who develops software for the Atari, Amiga, Mac and Mac II agrees, "I don't think there are any other entry level machines capable of doing desktop video besides the Amiga and Mac II. The current bevy of Atari machines isn't capable, and the Apple IIGS is certainly not technically capable. And what else does that really leave you? The Amiga is clearly a fabulous entry level graphics computer at a consumer price; the Macintosh II will be the esoteric pro piece of equipment.

"But if I had $25 million dollars a year for promotion, I wouldn't get Mac IIs, just to have the Mac IIs. I'd just as soon have ten more people working on Amigas because the person is the talent. The Amiga is great for video demos and in limited applications for broadcast. And you can do your conceptualization on the Amiga, then transfer it to a Mac II for production. A complete Mac II graphic/video workstation is going to be $15,000. It doesn't make sense to tie up that kind of workstation with preproduction."

Aegis is currently working on a program that will directly transfer IFF pictures and ANIM animation files from an Amiga to a Mac II with its 256 color display out of 16 million colors and its speedy 68020 CPU and 68881 math coprocessor. So a person can develop animations on the Amiga and then whip it over to a Mac II for final production.

The Impact Of DTV On Communications

The Amiga is a breakthough video computer that is making its way into professional edit bays across the country where they are quietly being used to augment the work being done on high end systems. Because of its low cost, the Amiga has earned itself a starring role on the nationally syndicated TV series *Secrets and Mysteries of the Universe*, where Jeff Bruette and Cris Palomino of Prism Computer Graphics create scenes from the past, present and future on the Amiga.

Bruette discovered the value of the Amiga in TV and video from his work with Richard Lewis on *Max Headroom*; he says, "A lot of the graphics for *Max Headroom* were done on a Wavefront at the Post Group. They would spend six hours on one technical display; if the producer didn't like it, it meant going back to the bay for another six hours. One day they needed a graphic on Max, and before the message could even get to the Post Group, I had the graphic done. It really upset the people at the Post Group that a guy using a $1,000 on-loan computer just took away a $250 an hour job that would have taken them several hours."

With an Amiga, the aspiring video producer or business communications savant can mix computer graphics, titles and 3-D animations directly onto video tape. Says Stewart Bonn, "There are ways that people are communicating with one another that will no longer use the printed word because you can deliver your message with greater impact and effect through video in a shorter period of time. You can watch a movie in two hours that is based on a book, but you can't read the book in two hours. You have a different experience when you read a book about World War II than when you see a two-hour movie, but the movie is probably a denser way of understanding what the war was about. Most people don't really have a choice right now; if they want to communicate with someone else, they have to use paper and words. What desktop video will allow is for people to choose the appropriate medium."

Personal computers have brought us past the revolution of desktop publishing, and into the new — and perhaps bigger — frontier of desktop video. In the words of Richard Lewis, "Desktop video opens up the ability to express yourself in ways that most people couldn't afford before. The technology from mainframes and minicomputers is filtering downward; what they did three years ago, you can now get close to on today's desktop. If you bought an Iris or a Sun two years ago, it's scary when your competition is doing the same stuff on desktops. Desktops like the Amiga and Mac II are getting so powerful, it's going to make a lot of mainframes obsolete." □

About the authors: Despite the fact that he writes for several national magazines, Ben claims to have no greater knowledge of the English language than what it takes to phone for pizza. Happily, his wife Jean is a trained journalist who specializes in the translation of arcane dialects such as technobabble, MIDI and heavy breathing. Contact them via telepathy, Compuserve #72017,1174 or c/o MicroTimes editorial. *Copyright © 1988 All Rights Reserved.*

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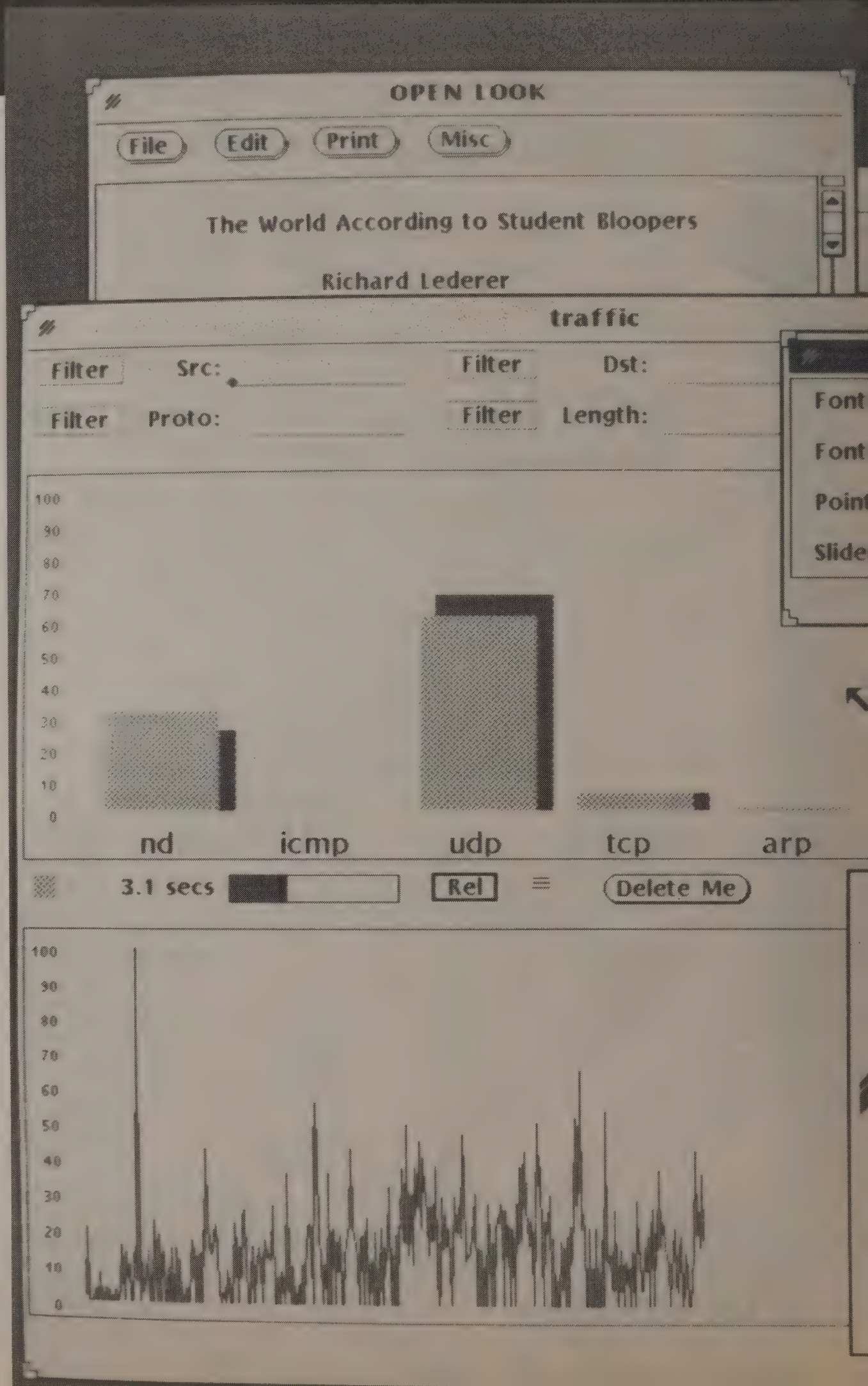


By Mary Eisenhart

When microcomputers based on Intel's 80386 microprocessor started shipping a year and a half ago, AT&T's UNIX operating system, long a mainstay of corporate, government, academic, technical and industrial environments, suddenly took on a new viability in the micro world. MS-DOS failed to take advantage of the 386's 32-bit architecture, and UNIX offered that power, as well as true multiuser-multitasking functionality.

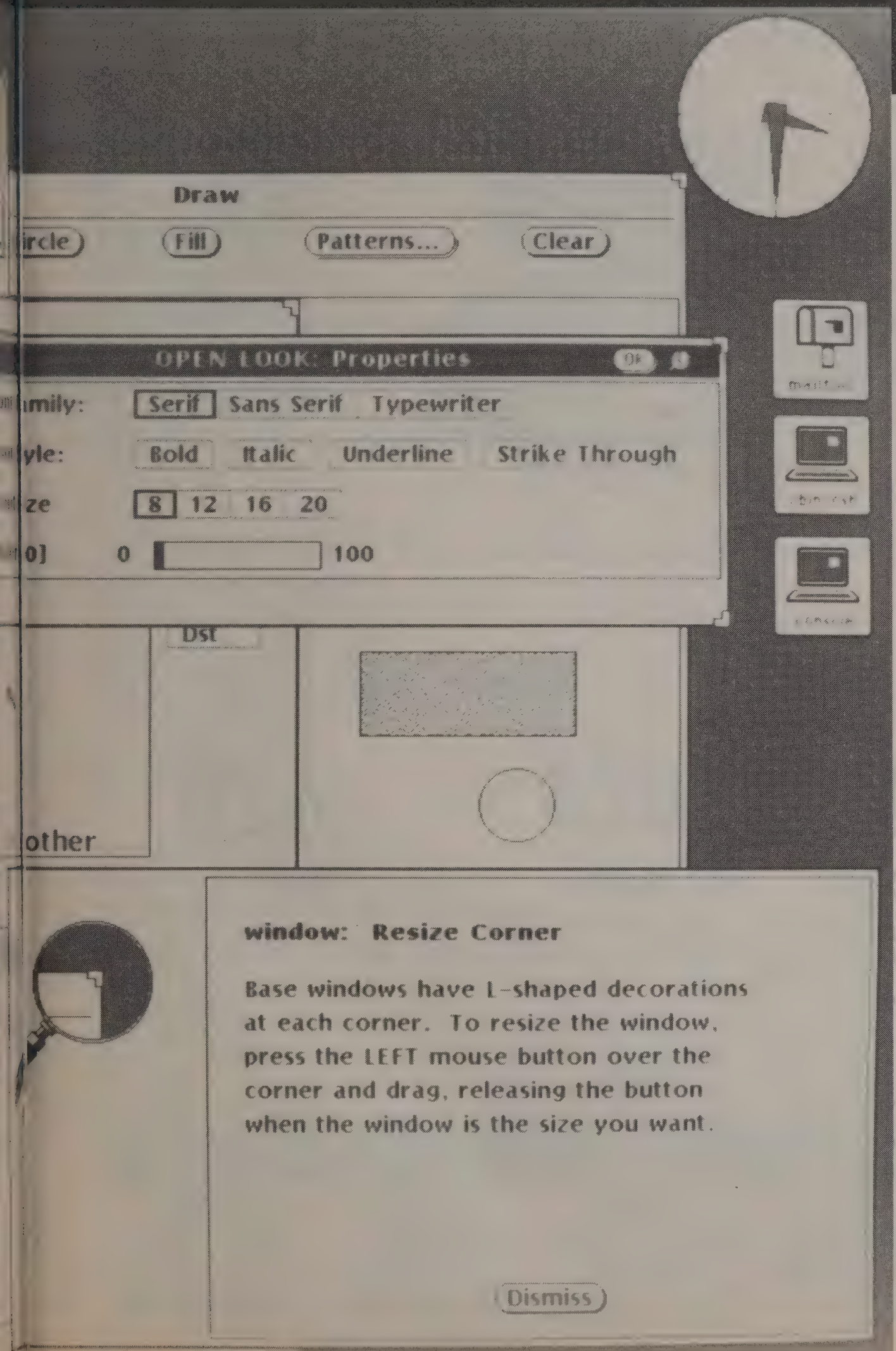
Created long ago in AT&T's Bell Laboratories, UNIX has always been known for its portability across machine lines, as well as its power. However, it's also been something of a byword for user hostility — it was written by programmers for programmers, and the software engineer's dream is often the naive user's nightmare.

On April 11 AT&T, in conjunction with Sun Microsystems, announced Open Look, its new graphical interface for systems running UNIX System V. It's positioning Open Look as an industry standard, and has garnered impressive endorsements from hardware and software vendors, including an unprecedented number from those whose strength is in the relatively massive PC marketplace.

Open Look features windowing technology licensed by Sun (of which AT&T now owns a 20% share, and which is involved with AT&T in creating a new industry-wide UNIX standard) from Xerox (whose technology was used by Apple in creating the Macintosh). Although the interface is not yet in final form, the version shown features elements at once familiar to the Macintosh user — windows, icons, dialog boxes, scroll bars, mouse support — but at the same time clearly distinctive. According to AT&T, the Open Look interface will provide a common look and feel across the UNIX system, using either MIT's X Windows or Sun's X11/NeWS environment. It will also allow the running of MS-DOS applications (and, eventually, OS/2 applications) as tasks in their own windows, using AT&T or third party add-on products.

AT&T expects the first Open Look

THE WINDOWS



product — a window manager for its own 6386 workstation, to be available this summer. The XT developer's toolkit, based on the X Windows standard, and the NDE toolkit, based on NeWS, will ship in the fourth quarter of 1988 and the first quarter of 1989 respectively.

What Does This Mean?

The announcement of Open Look is an aggressive attempt by AT&T to capture some of the market currently sought by Apple with A/UX, and Microsoft/IBM with OS/2 — power-hungry workstations and networked environments in corporate, technical and government settings.

Since the advent of 32-bit microcomputers, notably the various 386 machines and the Motorola 68020-based Macintosh II, there's been a headlong rush in the industry to secure the Holy Grail of interfaces: something that's easily accessible to the inexperienced user, which tends to mean mice, icons, and windows rather than a text-based system, and true multiuser-multitasking power and productivity, which tends to mean something like UNIX. As things currently stand, all the key players hold significant portions of a total solution, and promise the rest Real Soon Now.

In one corner there's Apple and the Mac II. On the one hand, Apple has a significant edge in the Macintosh interface, which is justly renowned for ease of use and consistent implementation across applications. It's stable, debugged, and beloved by millions of users. On the other hand, Apple's only recently begun shipping developer kits for A/UX, its own version of UNIX (licensed, naturally, from AT&T, an example of the convoluted alliances and rivalries characteristic of this arena), the preliminary version of the operating system is far from Macish, and real applications (along with the capability to run Mac applications concurrently under A/UX) are nowhere near the horizon.

In yet another corner there's Microsoft, which has raised strategic multitasking to a fine art. Microsoft

As shown during the announcement, the Open Look interface has both similiarities to and striking differences from the Macintosh interface.

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AT&T's John Boyd: "Whereas we have a lot of minicomputer multiuser, multitasking, really sophisticated applications software for UNIX boxes, the simple single-user high volume sales applications haven't been ported to UNIX."

is working with IBM to create OS/2, a multiuser-multitasking operating system for IBM's PS/2 line and such PS/2 clones as appear. Its interface is also graphical, based on Microsoft's *Windows* and the Presentation Manager, versions of which are available currently in *Windows 386* and 2.03. However, OS/2-based applications are still essentially vaporware, and the operating system itself seems to be getting less than universal acceptance among business clients who can't justify its operating costs (chiefly in terms of increased memory requirements).

The status of OS/2 and the Presentation Manager is somewhat equivocal, meanwhile, because Apple has recently sued Microsoft and Hewlett-Packard (whose *New Wave* product is based on *Windows*) for copyright infringement in Windows. No one's quite sure about the ultimate effect of this look-and-feel suit on the future of OS/2, but it's unlikely to be beneficial in the short term, as developers already concerned about a smallish user base confront the new problem of whether they'll be able to market *Windows*-based products at all.

Microsoft, meanwhile, has its own version of UNIX, *also* licensed from AT&T, called XENIX. XENIX is marketed and supported by the Santa Cruz Operation, which has, for years, successfully developed, sold, and supported sophisticated workalikes to popular DOS applications operating in a PC-based UNIX environment. The advent of the Compaq 386 and its descendants has been a boon to SCO in that XENIX is a thoroughly established standard which fully utilizes the machine's power.

XENIX, however, does not have a standard graphical interface, and could be adversely affected by an AT&T UNIX offering which combined an industry-standard interface with the ability to run DOS/OS/2 applications. SCO vice president Doug Michels issued a cautious statement of endorsement for Open Look: "We have reviewed the Open Look User Interface and agree that a common user interface for UNIX System-based platforms is important for computing in the 1990s. We will work with AT&T to further evaluate the Open Look User Interface for use in our products, and to suggest enhancements and extensions as appropriate for SCO's market."

In entering this quest for the ultimate operating system merged with the ultimate user interface, AT&T enjoys several strategic advantages. When it announced its partnership with Sun in creating a new industry-wide UNIX standard (see "The Guru And The Tramp," *MicroTimes*, April 1988), many of its UNIX licensees expressed concern at AT&T's probable ability to enforce industry-wide conformity to the new standard, and the announcement of Open Look enhances that ability. And again, AT&T offers the power of UNIX today. For Open Look, again, it's going to be at least a short wait.

Also, promising numbers of developers of significant existing DOS-based applications have endorsed Open Look as a platform. Lotus Development's president Jim Manzi commented: "Lotus' goal is to provide its customers with common applications such as *1-2-3* across standard platforms. Until recently, the variants of the UNIX System were a barrier to that goal. The Open Look User Interface exemplifies a movement toward a more standardized UNIX System environment. This movement has encouraged vendors like Lotus to develop UNIX System versions of proven applications such as *1-2-3*." Ashton-Tate CEO Ed Esber remarked: "The Open Look User Interface will play an important role in helping us provide our customers with powerful, yet easy-to-use UNIX System V applications. By joining forces, AT&T and Sun Microsystems have created an interface that truly makes UNIX System V a viable competitor to OS/2 and the Macintosh in the operating systems arena." (Autodesk, Borland, Symantec, Software Publishing, and WordPerfect also issued endorsements.)

To put these developments in perspective, we talked to John Boyd, sales and marketing vice president of AT&T's Data Systems Division.

How does the Open Look interface differ from the Mac interface or Windows?

Well, it's probably premature to speak to the specific appearance of the product. What we've announced is a developmental effort and the intention to release a product. We haven't yet released the product. At this juncture what we're doing is addressing a concern that has been levied against UNIX in the past.

Whereas everyone who is computer literate, especially those who are computer proficient, has often acclaimed the functionality and power of UNIX as an operating system, where it has not done as well is in common office environment desktop acceptance. And one of the reasons for it is that it hasn't had a very easy-to-use interface between the system and the end user. And so that's the importance of Open Look.

What that says is that with the license of the technology that has been developed by Xerox, at PARC, we will now be delivering to end users an interface that enables them to get access to the enormous power and leverage that comes from the UNIX operating system.

What technology are you licensing from Xerox?

I personally am not equipped to tell you that. I *can* give you a little background on PARC.

PARC is the Palo Alto Research Center. Xerox may not like this, but I tend to think of PARC as analogous to their Bell Laboratories. It was a real pure research center, and they turned loose a lot of very creative, capable engineers and scientists. They made a number of significant breakthroughs in desktop computing, back in the '70s, that are the basis for a lot of the technology that is used today, and is openly acknowledged as the technology that is largely responsible for the acceptance of the Apple Macintosh computer. My belief is that Apple readily acknowledges that contribution of PARC.

I have certainly always used that as a reference point, one of the very key developments in bringing desktop computing power to the typical end user, and that was that scientific breakthrough at PARC. Now the Xerox people in turn never really fully deployed that technology in their own product line.

A lot of developers from a variety of environments have issued statements in support of the Open Look effort. Some of them, such as Ashton-Tate, are not players in the UNIX world at this point. What does this mean?

What this really means — we have had, for a number of years, an ample supply of applications software written under UNIX. What we haven't

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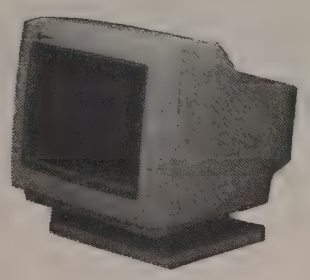

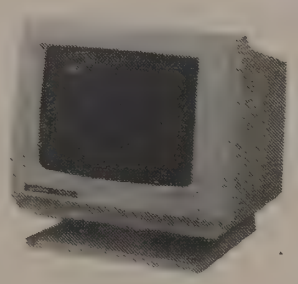

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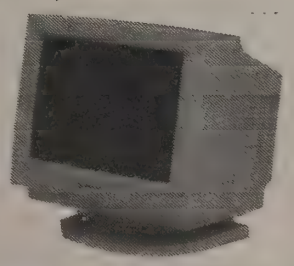

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had however, is that application software that was written under MS-DOS or PC-DOS, and that has become enormously popular with the typical end user, such as *Lotus 1-2-3*. So whereas we have a lot of minicomputer multiuser, multitasking, really sophisticated applications software for UNIX boxes, the simple single-user high volume sales applications haven't been ported to UNIX.

Well, it's often been said that UNIX is of no use to a single user. Is that still true?

It's my belief that's never been true. I think what's intended by that comment is that, because it lacks this easy-to-use user interface, it made it difficult, very difficult, for an end user to get access to all power features and benefits of UNIX.

But now I believe what your leading software people are saying is with an Open Look interface that accomplishes what they've been looking for for some time now, they are ready to make the investment in porting their software to UNIX, because now it has a feature that it has lacked in the past.

In the personal computer and workstation environment, what machines do you expect the Open Look interface to run on, initially?

Well, certainly it's intended for the AT&T 6386 workgroup system. So that would be the most natural. Then it would be a common interface that we would employ in all of our UNIX-based machines. I'm not sure we've released the exact schedule on which machines will be available first, but from the standpoint of the end user the most significant would be our 6386 workgroup system.

Where do you stand in regard to companies like IBM and Apple, as far as supporting their hardware goes? Do you welcome them as collaborators, or regard them as hostile competitors?

Well, (laughs) probably a little bit of both. We license UNIX to both IBM and Apple. So to that extent we are collaborators within the industry infrastructure. But then, of course, we are marketing and selling our own unique deployment of that technology, and to that extent of course we compete.

Now in the case of Apple, they have their graphic user interface for which they've become famous, on the Macintosh, again, which relied heavily on the Xerox technology. Microsoft, in turn, is developing their version of that, which they call the Presentation Manager, which they're doing with the collaboration of IBM. So Open Look is another alternative, but the Open Look user interface is for the UNIX environment.

AT&T's 6386 workgroup workstations will be the first platform for the Open Look interface, with a window manager due this summer.

From a user standpoint, what would be the advantages of going with an Open Look architecture rather than with the Mac II or OS/2?

I think the real differentiation will probably be interesting, and maybe even important, between the user interfaces. More than likely, users, when they select user interfaces, will be doing that more on the basis of personal preferences — the appearance of the graphics, the feel of the mouse, or whatever it is, is personally suitable to them.

The real decision, however, is not so much a decision between Presentation Manager and Open Look, as it is a decision between OS/2 and UNIX. Or DOS and UNIX. And the basis for that decision is that with UNIX you have available to you today the capabilities that are predicted for future versions of OS/2. OS/2 double extended, if you will. The best example of that is the multitasking multiuser capabilities of UNIX today. Then with our Simultask product — normally with UNIX you can run a number of UNIX applications simultaneously because it has a multitasking capability. With our Simultask product, which is available now, you can not only run UNIX applications simultaneously, but you can combine UNIX applications with MS-DOS applications. So effectively you're able to run multiple UNIX and DOS applications simultaneously on the same machine. You can do that today with AT&T 6386 workgroup system.

What kind of programs do you have in place for developers who want to use this as a platform?

Well, we are first of all running seminars for developers and software vendors to enable them to have all the tools and the training they need to move their software to our system. Particularly on Open Look — we have announced several seminars specifically tailored to Open Look.

What sort of applications are you particularly interested in?

Well, at this juncture what we're most interested in — we pretty much have a wide, robust range of applicatons in UNIX today. We've got all the spreadsheets, word processors, and quite frankly, most of the vertical applications.

Most of the important vertical applications are written in UNIX today. Because most of the multiuser systems which support vertical applications tend to be UNIX systems, whether they're from AT&T or Altos or NCR. That's really where your Value Added Resellers are operating primarily today, in UNIX systems, and DEC/VMS. We have a very, very wide range of UNIX applications.

What we're most interested in, with this, is getting the very popular, already-existing horizontal kinds of applications that are written in DOS, and also those DOS applications that are vertical applications, that are written for the small professional offices, and things like that, to be able to bring them over now.

Any specific ones you have in mind?

No.

What about Macintosh applications?

Again, we're not targeting anything specifically that's written in Macintosh. There is nothing that I'm aware of that is written for a Macintosh, that is not today available in an MS-DOS version, and that we're desperately interested in.

Do you expect this to be a serious competitor to publishing applications currently existing in the Mac and DOS world? Sun has a pretty good presence in that area.

Well, first of all, publishing really comes out of the software. When you take your publishing software, whether it's *PageMaker* or whatever, and if you're able to run that on a 386 microprocessor, like our 6386, combine that with the power of UNIX, and you have a formidable desktop publishing platform. Add to that the kind of interface that those who are in the creative publications end of the business require, and which Open Look will satisfy, then I believe, yes, you have a significant desktop publishing application.

Steve Jobs is famous for saying that UNIX is doomed if it doesn't come up with a decent user interface pretty quickly. Is Open Look designed to address that issue?

Well, Steve was saying that when he was at Apple...Since he's left Apple, Apple has made some significant announcements about the future of UNIX on their box.

And of course, by, the way, the Apple people, I guess they're all over in Claris, do all the development in C (an extremely portable language, in which most of UNIX is also written). □

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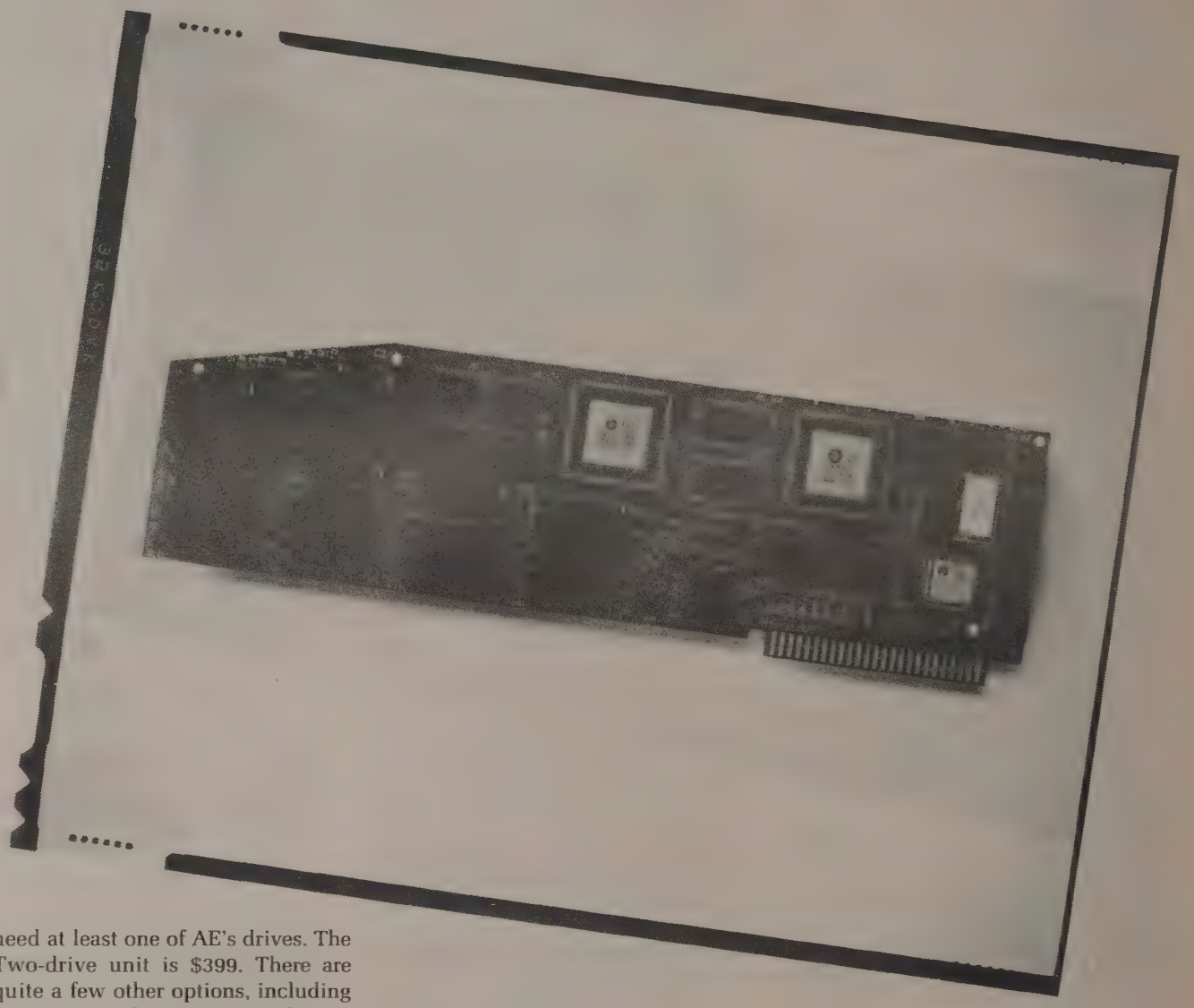
The Applied Engineering PC Transporter System

By Mike Markowitz



It isn't every day that an add-in card for the veteran Apple II rates a story in the *Wall Street Journal*. That's what happened during Apple-Fest in September, 1987, as Applied Engineering was demonstrating the PC Transporter to admiring throngs. "Now Apple Speaks IBM" said the colorful buttons. To many Apple hackers it was a chilling prospect.

The product finally shipped in January, 1988, only a few months late. The biggest initial customer was the Department of Defense, which took 4,000 (to be installed in new Apple IIGS's in schools for military dependents all over the world.)

With a price tag as impressive as its spec sheet, PC Transporter is aimed at Apple users who need MS-DOS capability, but who don't want to buy a whole bulky, obsolescent computer to get it. In effect, PC Transporter puts an entire PC-XT clone inside your Apple, where it sleeps until you wake it up by running special "preboot" software.

When it comes alive, it treats your Apple peripherals as if they were the equivalent devices connected to a PC. The ImageWriter printer, for example, emulates the IBM Graphics Printer, and Apple 800K 3.5" disk drives can be used as MS-DOS 720K drives. The Apple mouse can emulate the Mouse Systems PC mouse connected to COM2. MS-DOS can read any ProDOS clock/calendar to time/date stamp files. You can even create an MS-DOS volume on a ProDOS-compatible hard disk. Although PC Transporter has no PC-compatible "slots" of its own, it can use devices connected to many of the slots and ports of the Apple II.

First the price tag, then the spec sheet . . .

Cost

The package we received for review invoiced out at $957 retail. This included:

PC Transporter with 768K	$639.
IIGS Installation Kit	49.
5.25" 360K One-drive System	269.

The minimum configuration of the card is 384K of RAM for $489. The installation kit (cables) for the IIe or II+ is $39. Apple 5.25" drives are single-sided, and too dumb to work normally with MS-DOS, so you will need at least one of AE's drives. The Two-drive unit is $399. There are quite a few other options, including an 8087-2 math co-processor chip for $229. Ouch.

You can upgrade the memory in 128K increments ($40 each). The chips are not standard DRAMS, but "dual ported" ZIP chips that stand on edge, to take up less space on the board.

Apple II+ users will need to buy an IBM-style keyboard ($139) and adapter cable ($34), since they don't have enough keys, even in funny combinations, to use MS-DOS software. Apple IIGS users contemplating the world of MS-DOS may also wish to ditch their toy keyboards for something more substantial. Otherwise, the keyboard remapping is fairly easy to remember: <open-apple> becomes <Alt>, and <closed-apple> in combination with the digits gives you the function keys.

Specifications

PC Transporter is a remarkable feat of engineering. The design team included Cliff Huston, who helped Steve Wozniak design the original Apple II disk controller, Dick Huston, who wrote the ProDOS operating system, Peter Quinn, the engineering project manager for the Apple IIe and IIc, and several other Apple veterans. Apart from the RAM chips, there are only 15 chips on the board (16 if you add the math co-processor). The disk controller chip and video chip are especially impressive as examples of customized large-scale integration. The card draws only 350 milliamps of current on standby, 600 milliamps when active. The use of surface-mount technology should ensure that this will be a reliable board. The CPU is an NEC V-30, which emulates the Intel 8086 operating at 7.16 Megahertz. The video output supports the standard IBM Color Graphics Adapter modes, but can be used with composite, TTL RGB or analog RGB monitors.

The twenty-four RAM chips are special "dual ported" memory, accessible to both the PC Transporter and the Apple's own microprocessor. You can use this memory as a RAM disk when running Apple ProDOS programs. It appears as "drive #1" of the slot PC Transporter is plugged into, with the volume name/RAMAEPC.

Installation

The board can live in any Apple slot, except #3. On the IIGS it can go into Slot #7 and it doesn't interfere with the memory expansion slot. The package we received included a short videotape (VHS format) in which the well-groomed hands of a young lady demonstrate all the tricky steps of the installation process. The manual gives a detailed procedure for each kind of Apple II.

With a price tag as impressive as its spec sheet, PC Transporter is aimed at Apple users who need MS-DOS capability, but who don't want to buy a whole bulky, obsolescent computer to get it.

The IIGS installation kit includes a separate, small circuit board called the Color Switch, which takes the digital RGB output from PC Transporter and converts it into an analog RGB signal for the Apple monitor. The Color Switch snuggles up against the power supply case (a little rubber bumper keeps the pins on the back side of the card from shorting out on the case). The cabling to and from this board makes some tight turns, but we were able to complete the installation without difficulty.

Users who have some confidence and experience in installing and removing circuit boards should have no difficulty with PC Transporter. The board uses static sensitive CMOS components, however, so the usual precautions should be taken (touch the power supply case to discharge yourself, don't do the installation on a dry windy day, unplug your electrostatic air purifier, and keep the cat out of the room).

According to Applied Engineering, the PC Transporter is compatible with the Laser 128 and later Franklin clones of the Apple II, although this is not mentioned in any of the advertising or documentation . . .

Documentation

The 162-page spiral-bound User's Manual is written to a very high standard of clarity and completeness, but the sheer complexity of the product means that most users will have to invest a few solid hours of study. Chapters cover hardware installation, software configuration, technical theory of operation, using the PC Transporter software, MS-DOS reference, keyboard reference, disk drives, printers and other peripherals.

Appendices list the Apple interface cards supported, PC Transporter file types, MS-DOS Utilities, and a brief bibliography. A good four-page index makes the manual a pleasure to use.

Compatibility

PC Transporter performs exactly like a typical PC clone, in most respects. Lotus *1-2-3* and *Flight Simulator* ran without difficulty, but a few copy-protected games would not boot, or crashed immediately after loading. The MS-DOS operating system is *not* provided with AE's package, but you can legally purchase a copy from almost any computer store for under $100. The following programs all ran perfectly:

MS-DOS 2.11, *Mavis Beacon Teaches*, GWBASIC, *Typing!*, PC-DOS 3.30, *Copy II PC*, *WordStar* 3.3, *PC Tools*, *MultiMate* 3.5, *Norton Utilities*, *VolksWriter*, *Colortrope*, *Kedit*, *Chessmaster 2000*, *Print Shop for the IBM PC*, *Print Master*, *Pro-Design II* (demo disk).

We even ran IBM's own tutorial disk "Exploring the IBM Personal Computer XT." You can't get more True Blue compatible than that! Peter Norton's handy SYSINFO utility gave a computing performance index of 3.2 (relative to the original IBM PC).

We could not get any PC games to recognize the Apple joystick. AE's tech support explained that even though the Apple II and the IBM PC use the same kind of "analog" joystick, the Apple handles input from this device at a much slower rate, and there was no cost-effective way to emulate the IBM-style game port. Few purchasers of PC Transporter will be buying the product in order to play games, so we do not see this as a major compatibility problem . . .

Software

To use PC Transporter, you place AE's preboot disk (both 3.5" and 5.25" formats are supplied) in an Apple drive, and a bootable MS-DOS disk in a TransDrive, and simply turn on the computer. The software is a standard ProDOS application, (so you can launch it in the usual ways) but after loading itself into the first 128K of memory on the card, it runs a little memory test, snaps into MS-DOS and boots to the familiar A> prompt. If you have forgotten to put a bootable MS-DOS disk in the drive, or left the latch open, the program crashes with a fatal error, and you have to reboot.

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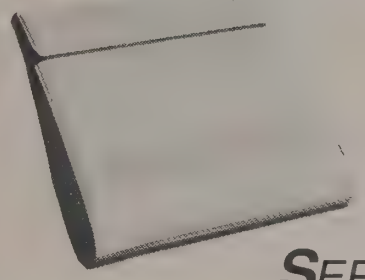

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PC Transporter performs exactly like a typical PC clone in most respects. Lotus 1-2-3 and Flight Simulator ran without difficulty, but a few copy-protected games would not boot or crashed immediately after loading.

The PC Transporter software includes an elegant Control Panel, which is accessed by holding down the Shift key and pressing Caps Lock twice (an unusual enough combination that you don't have to worry about entering it by mistake!). The Control Panel consists of a series of nested menus providing total control over the system configuration. On a IIGS you can still interrupt PC Transporter to access Apple's Control Panel in the usual way; AE should have called their Control Panel something else to avoid possible confusion.

The next release of the PC Transporter software will reportedly include diagnostics, as well as the *AppleWorks* enhancements from AE's RamFactor memory card.

The 360K TransDrive was one of the noisiest disk drives we have ever heard. It sounded as though a small animal trapped inside was trying desperately to escape. As expected, it would not read disks formatted on a high-density (1.2 Mb) PC-AT style disk drive.

File Transfer

An MS-DOS program, TRANSFER.EXE, included in the PC Transporter utilities, can be used to move ASCII or text files to or from ProDOS. It can be executed immediately from the DOS prompt if you know all the path names, or run in a menu-driven interactive mode, which takes you through the process step by step. We had no trouble moving *AppleWorks* text files into *WordStar* (as "non-document" files).

Support

AE offers a one-year warranty on PC Transporter. On memory chips they offer an incredible five-year warranty. A technical support line (not toll-free) is manned from 9 to 5 (CST) on weekdays. Among Apple users, this company has a good reputation for standing behind its products.

Evaluation

If PC Transporter had been available a year earlier, it would have been a greater value. Today, a PC-XT clone, with medium-resolution CGA graphics and no hard disk, is only marginally viable as a home/business system, even if it coexists peacefully inside your Apple II. Moreover, most educational software looks and runs better on the old Apple II than on any PC, so the usefulness of PC Transporter in schools is questionable. The industry standard has moved very quickly to EGA graphics, a 20 Mb or larger hard disk and a fast 80286 (PC-AT class) microprocessor. Now a plain PC-XT can certainly do a great deal of useful work in almost any environment, but its capabilities are really not that much greater than an enhanced IIe running *AppleWorks*. To attract the typical user, a coprocessor system like PC Transporter has to offer significant additional power that the host system cannot provide in its "native" mode. Remember that most Apple II users contemplating an upgrade would rather have a Macintosh of any kind than the fastest, fanciest PC clone on earth. We are a loyal breed.

It would be a very good idea for AE to offer an inexpensive 20 Mb half-height hard disk as an option, installed in the TransDrive unit. Very few Apple II users can afford a ProDOS hard disk, since they are about twice the cost of equivalent MS-DOS drives. Running today's MS-DOS applications without a hard disk can be a torment. It might also be a good idea to offer a version of PC Transporter that could be installed inside the Apple IIc. This would be a packaging challenge, but AE's admirable Z-RAM memory card for the IIc demonstrates how much can be crammed into that little computer.

In the long run, AE will need to enhance the PC Transporter hardware in order to stay competitive with low-priced clones, at least to the level required for *Windows*, if not OS/2. Meanwhile, the package is an excellent "interoperability" solution for at least half a million people who enjoy Apple II computing at home, and endure MS-DOS at work. (Applied Engineering, PO Box 798, Carrollton, TX 75006. Sales (214) 241-6060; technical support (214) 241-6069.) □

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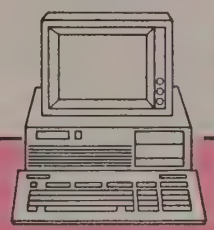
- Cable cost extra (depends on customer requirement)



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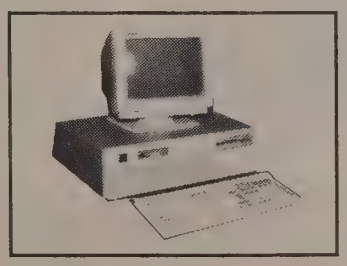

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*20 MHz 80386 system option available
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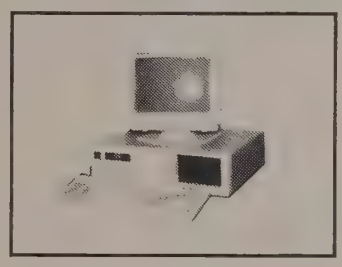

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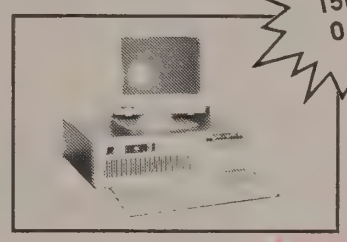

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- Parallel printer port
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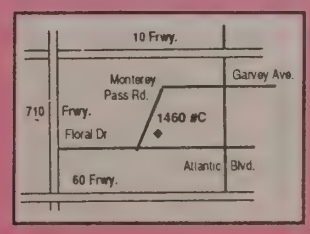

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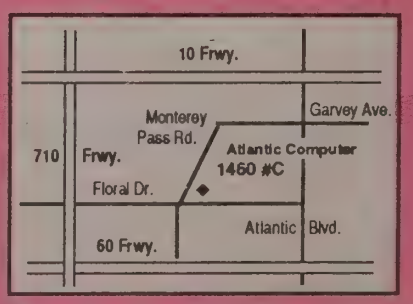

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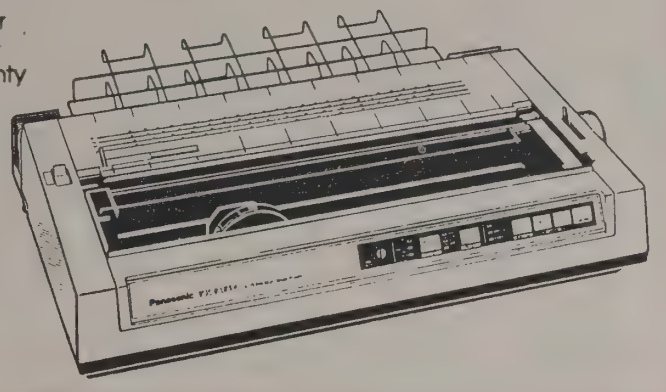

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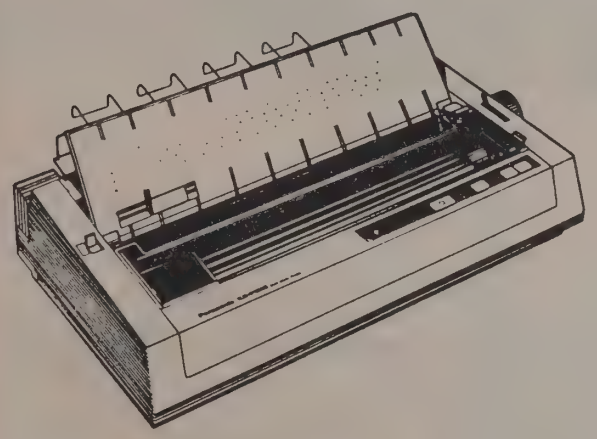

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Long awaited, this update of the former Apple classic offers some very useful new enhancements while retaining the program's attractive simplicity. However, it may be too little too late.

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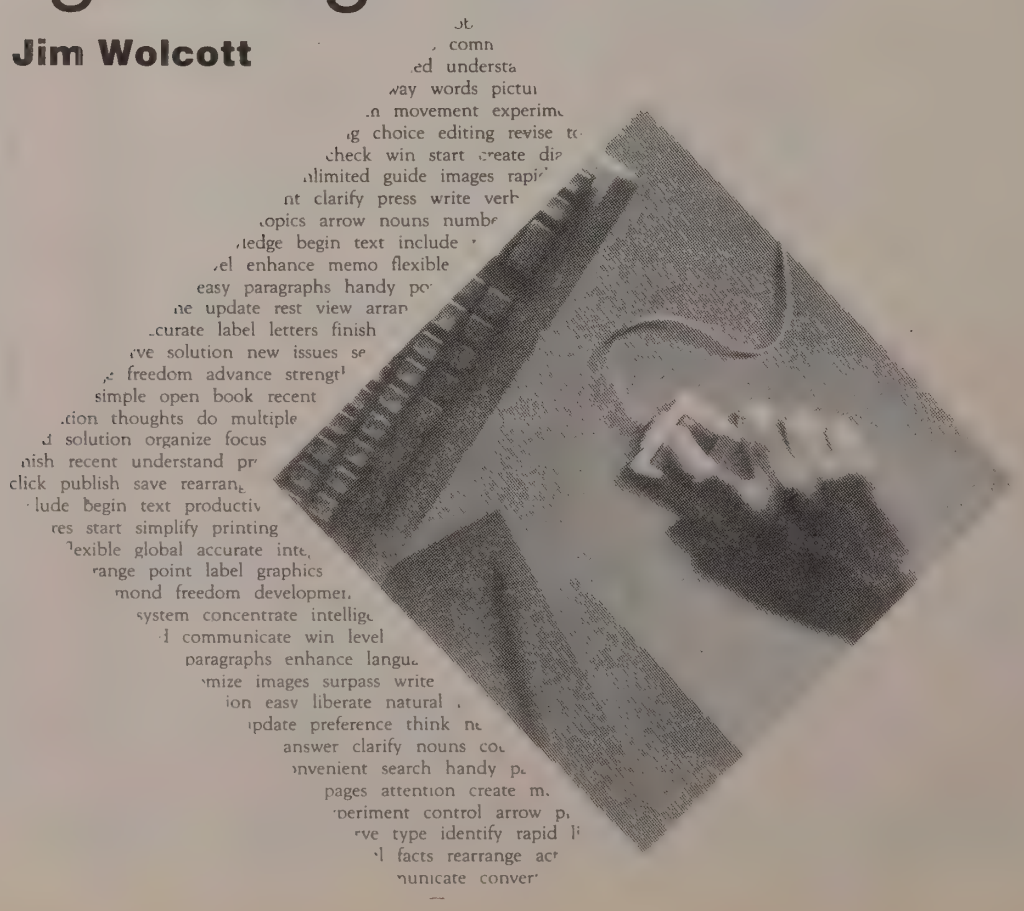
The MindWrite Word Processor

Flexible Outlining For Organizing Your Ideas

By Jim Wolcott



Since *MacWrite* became a stand-alone software product (rather than a freebie included with every beige box), the Macintosh market has seen a flood of word processing software.

For the Mac enthusiast who did little writing, *MacWrite* filled the bill. At the other extreme, the professional writer usually chose the most powerful (and convoluted) word processor on the market: Microsoft *Word*. For the rest of us, it's been a matter of matching features and power for the job at hand.

However, what's been missing from most word processing software is the ability to easily move and manipulate ideas throughout a document. Of course, all word processors offer cut and paste for moving blocks of text. But cutting and pasting your way through a multi-page document practically guarantees losing track of thoughts and concepts.

What's been needed is outlining — a word processor where outlining is a seamless part of the document itself, rather than a tagged-on feature accessed through a different "view," or "window." Enter *MindWrite,* from MindWork software: a word-processor designed around the concept of outlining. On opening a *MindWrite* document, simply type in the headings for the various topics you want to cover. Each heading will be accompanied by a black "diamond" off to the left side.

True to the standard outline format, each diamond can then be "promoted" or "demoted" in hierarchy (moved left or right) with simple keystrokes. Para-

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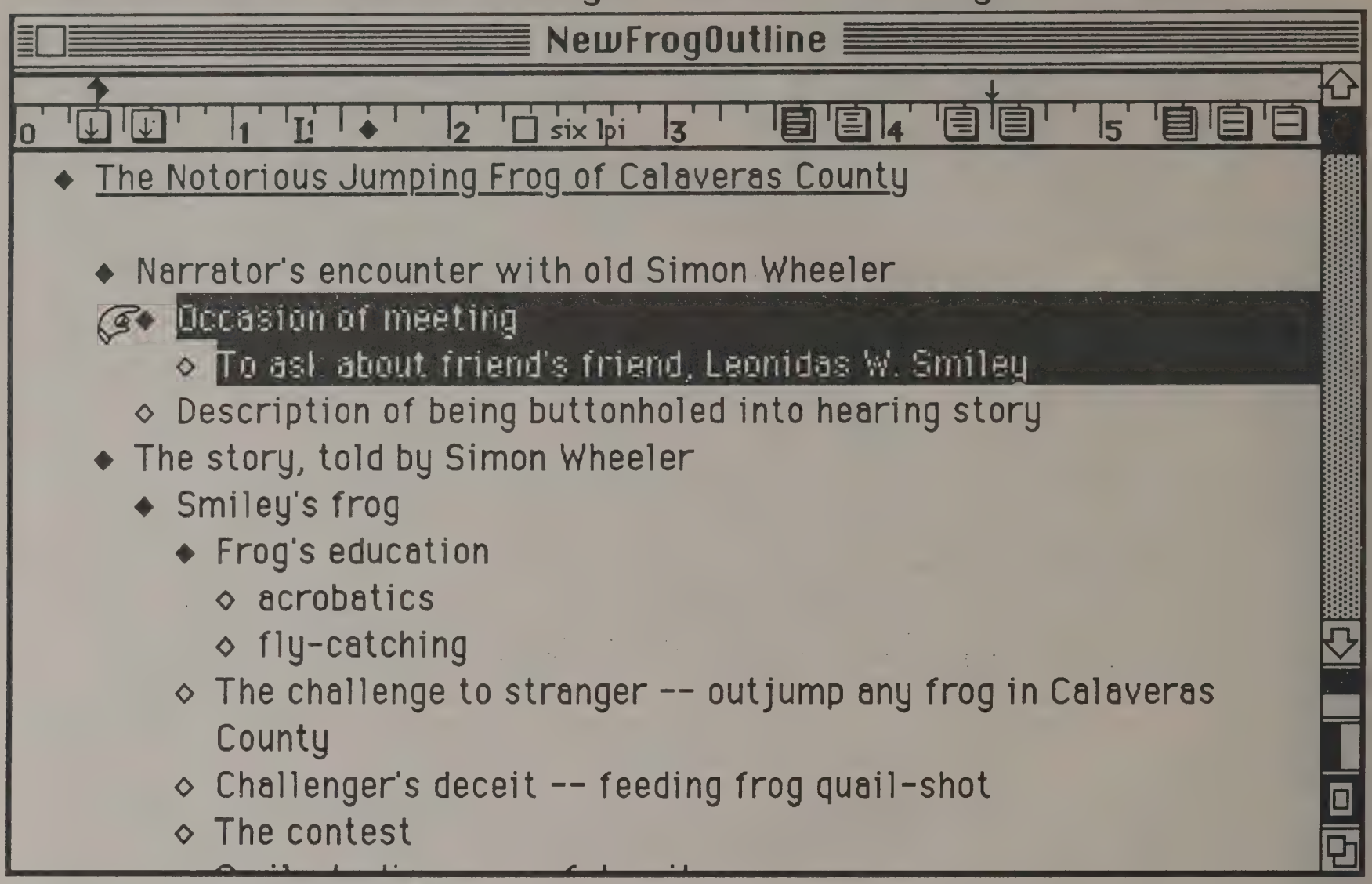
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NewFrogOutline
six lpi
The Notorious Jumping Frog of Calaveras County
Narrator's encounter with old Simon Wheeler
Occasion of meeting
To ask about friend's friend, Leonidas W. Smiley
Description of being buttonholed into hearing story
The story, told by Simon Wheeler
Smiley's frog
Frog's education
acrobatics
fly-catching
The challenge to stranger -- outjump any frog in Calaveras County
Challenger's deceit -- feeding frog quail-shot
The contest

MindWrite makes it simple to "grab" a section of an outline, and move it to another area of the document. Simply "grab" the diamond with the "hand," and drag.

graphs of text can then be entered under the heading. Another keystroke will hide the text, returning the screen view to the outline headings.

Now the fun begins. Want to move a heading up or down in the outline along with all the text associated with that heading? Simply move the mouse to the heading's diamond, click on the diamond, and drag the heading up or down in the outline. That's it: no cut, copy or paste rearranging of a document is as quick as a click and a drag.

The "click and drag" technique also works for changing the hierarchy of a heading. Just click on a diamond, and drag it left or right. No keystrokes required.

The layout of *MindWrite* is similar to that of *MacWrite,* in that sections of text are formatted under a "ruler." To change the formatting for a particular section, simply insert a new ruler. Ruler options include left align, center align, right align, and justify, with single-space, space-and-a-half, or double spacing on lines. Tabs and decimal tabs are available; however, right-aligned tabs and tab-leaders aren't available.

MindWrite offers the ability to create multiple-window views of the same document. Therefore, you can set one window to show your entire document, and another to just view the outline headings. Jumping back and forth between the windows makes it easy to get an overview of the document, and then jump to the body of text to continue writing. Unfortunately, changes made in one window aren't reflected in others until those windows are "activated" (with a mouse-click). For heavy document-thrashing, you've got to click your way around all the open windows to bring everything up to date.

Unique to *MindWrite* is the way it deals with the Macintosh "Clipboard." When an item is cut or copied from a document, it's stored on the Clipboard — standard Macintosh stuff. However, *MindWrite* stores multiple cuts and copies on the clipboard — *MindWrite* calls this an "Accumulating Clipboard." Any time during a *MindWrite* session, you can scroll back through the Clipboard and access any item that was cut or copied. For heavy text editing, this can be a godsend. With *MindWrite,* items long-ago "cut" from the document can be effortlessly restored.

On the topic of dealing with changes to a document, *MindWrite* can automatically highlight the sections where the text has changed since the last save. For the circumstance where an edited document has to be reviewed by someone else, this feature alone makes *MindWrite* an attractive proposition. Gone are the days of poring over a print-out to highlight sections with a felt pen.

For dealing with other Macintosh applications, *MindWrite* can read files from *MacWrite, ThinkTank,* and files saved as "text only" (ASCII). *MindWrite* can save files as *MacWrite* and text-only, so text and documents can be exported to page-layout programs. Though *MindWrite* can read files from Living Videotext's *ThinkTank,* it's blind to files created with its updated *MORE* outline processor. (A work-around is to create a *MORE* document, and then use "Save as..." to create a *ThinkTank* version from within *MORE.*)

So, with all its abilities, how does *MindWrite* stack up against competing word processors? If you go about writing in "outline form," starting with a flow of ideas, and fleshing out the body of text, *MindWrite* is the hands-down winner. But *MindWrite* has a couple of shortcomings. First, there's no built-in spelling checker — though *MindWrite* supports Deneba System's "Coach" spelling checker. Also, there's no automatic hyphenation for a document in a "text justified" format. No "Glossary" or "Style Sheets" are available for the instant input of frequently used text or paragraph formatting.

For all its ease of use, *MindWrite* is littered with awkward and non-intuitive menu-shortcut keys. No support is offered to redefine these keys for Apple's Extended Keyboard, though a keyboard utility such as CE Software's *QuicKeys* can circumvent this shortcoming.

But *MindWrite* offers one of the most comprehensive "Search" features available on any Macintosh word-processor. *MindWrite* also includes a word-count option that really works, and offers the flexibility to calculate the word count based on a user-defined average word length. An auto-backup feature enables the user to create a new document automatically when changes are made, which makes it easy to revert to the previous version if you want to discard editing changes. Also on the features Hit Parade is automatic table-of-contents (based on the outline), automatic time and date stamping of documents, and sorting capabilities.

All in all, *MindWrite* offers an attractive alternative to traditional "cut-and-paste" word processors. Word processing on the Macintosh is evolving rapidly, and upcoming programs rival the abilities of current page-layout software for the handling of text and graphics. However, none of the rumored offerings have the outlining capabilities of *MindWrite.* In spite of a couple of detail quibbles, *MindWrite* stands alone in its ability to manipulate concepts and ideas in a text document. For business professionals looking for a word-processor based on outlining, *MindWrite* is both the easiest to learn, and the most powerful product available.

MindWrite's suggested retail price is $195. For further information, contact MindWork Software, 555-C Heritage Harbor, Monterey, CA 93940. (408) 375-1531. □

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MacWrite 5.0

It's Great, But Is It Enough?

By Mary Eisenhart

For an intransigent *MacWrite* user like myself, this new version from Claris (see sidebar) is problematical. On the one hand, it offers some new conveniences which make themselves indispensable in about five seconds. On the other hand, 5.0, while certainly the first major enhancement of *MacWrite* in three years, may not be enough of an update to keep the product competitive. After all, it's increasingly hard to be an intransigent *MacWrite* user in a world when most of the "serious" applications seem to want you to use *Word*, John Dvorak and half the Mac universe want you to use *WriteNow*, and your UNIX buddies, just to be difficult, want you to learn *vi*.

Time was when *MacWrite* was the only word processor you could get on the Macintosh. Currently, it and *Word* represent a dual standard, and any self-respecting Mac packages that handle text had best be able to deal with both of them. With Apple's name off the *MacWrite* box, and without a substantial attempt to keep this product competitive, it's at least questionable that *MacWrite* will be able to hold onto any pretensions to being a standard.

Which, from the standpoint of those of us who don't want to switch, would be a real shame.

Why MacWrite?

At $125 and 170K, *MacWrite* is obviously aimed at the low-end market. (Registered owners of 4.5 can upgrade to 5.0 for $25, and should.) It's a nice basic word processor without a lot of daunting features; it probably wouldn't be your choice if you write books regularly, for instance, and have to have features like automatic footnotes and table of contents generation and sophisticated graphics handling. While Ashton-Tate may be worried about whether *FullWrite Professional* will ever ship, it probably doesn't lose a lot of sleep over sales lost to Claris.

Claris/Apple has greatly improved the functionality of menu commands and their keyboard equivalents with a minimum of disorientation.

What *MacWrite* does offer is simple, intuitive text editing and handling. Having gone from a typewriter to *MacWrite* without benefit of documentation, I can attest to the program's successful implementation of the "rest of us" ideology, its graceful synthesis of digital and analog into something you don't *need* a tutorial to learn.

Also, having adhered in most points to the sacred KISS (Keep It Simple, Stupid) principle, and being fairly stable, MacWrite will probably go through its entire life without spawning anything like the thriving genre of love/hate literature *Word*'s been enjoying for the last couple of years.

What's New?

MacWrite 5.0 looks and feels very much like its former self. Its most visible new feature is a spelling checker, which is increasingly *de rigueur* these days whether you want one or not. This one includes a Main Dictionary and a User Dictionary, to which you can add words like "Amiga" which the checker doesn't recognize (though for some reason it doesn't bat an eye at "Valium"); it's simple and easy to operate. Like every spelling checker I've encountered, it's slow and awkward, checking word by word and prompting you with suggestions every time it encounters something it doesn't like. Spelling check-

Claris—New Directions For Apple's Spinoff

Claris, from the Greek meaning "clear and distinct," is the Mountain View offspring of Apple Computer. Formed in April of 1987, Claris has taken over the job of developing and marketing Apple software. The firm was formed to eliminate direct competition between Apple and its third-party software developers.

According to marketing manager Kyle Mashima, there had always been a hint of conflict of interest between Apple and its third-party developers. When the Mac was first introduced, it came bundled with *MacWrite* and *MacPaint*. These two programs were written by Apple — no other software was yet available to take advantage of the unique features of the Mac. To promote the new machine, Apple took its brand of evangelism to other software firms, asking them to write Macintosh programs.

At the same time, Apple continued its internal software development, often becoming a market rival of the very firms it was trying to convert. The situation worsened in late '85 when Apple acquired an ACI (France) database package code-named *Silver Surfer*.

Ashton-Tate, maker of one of the most popular database managers, had begun work on its *dBASE* Mac product. After hearing of Apple's plans with *Silver Surfer*, Ashton-Tate made some very ugly noises about dropping its Macintosh projects. And with visions of winged-dollar signs in flight, Apple reluctantly dropped *Silver Surfer*, now published by Acius as *4th Dimension*.

However, the larger conflict-of-interest issue still remained. Apple eventually decided that forming a separate software corporation would be the best way of resolving the problem. Located in Mountain View, a scant five miles from its parent, Claris is currently a fully owned Apple subsidiary. They expect to become a fully independent company sometime in the near future.

Claris enjoys a few of advantages over most start-ups. Aside from Apple's support and association, Claris also inherited a very profitable product line, including *MacWrite, MacPaint, MacDraw, MacProject* and *AppleWorks* (for the Apple II). At the January Macworld Expo, Claris launched new versions of all these products and also introduced two new programs — *SmartForm Designer* and *SmartForm Manager*.

The SmartForm series is aimed at a fairly undeveloped market — business forms. *SmartForm Designer* is an impressive program, allowing easy design of professional forms like expense reports, invoices or mailing labels. The interface and tool set will be familiar to anyone who's used *MacDraw*, and includes specialized form tools.

Forms created in *SmartForm Designer* can be printed, or used by *SmartForm Manager. SmartForm Manager* allows electronic input of forms data. When used together with *SmartForm Designer*, the programs allow the designer to add "intelligence" to their forms. For example, context-sensitive help, error checking and basic calculations may be added to any field.

So, instead of making employees fill out a printed payroll by hand, a company might let them enter their hours on the Mac. *SmartForm Manager* could automatically total their hours, export them to *Excel* and the data would be instantly available for cost accounting.

Dataquest, a San Jose market research firm, has called the *SmartForm* series "make-or-break" products for Claris. Mashima disputes this point, saying he doesn't believe that the viability of the firm is really in question. The forms market is largely unexplored territory, he says, adding, "The response we've gotten has been tremendously positive," he says. "Our flagship product is really *MacDraw II*, which we think is the best drawing product in the industry."

In the foreseeable future, Claris will only develop software for Apple machines. Although many firms have been converting their Macintosh programs to run on the PC under *Windows*, Claris eschews what it considers "least-common-denominator" programming. "We feel that there needs to be a major force in the Mac world besides Microsoft," Mashima maintains, noting that when you write programs to run in both environments, you sacrifice the ability to use some of the unique features which are built into the Mac. Claris also seems to want to perpetuate the sense of innovation and individuality that's always surrounded the Macintosh.

"Mac owners have always had a very close relationship with the box (computer)," says Mashima. The difference between Macs and PCs is like the difference between a dog and a phone — "You don't name a phone..."

— Steve Guttman

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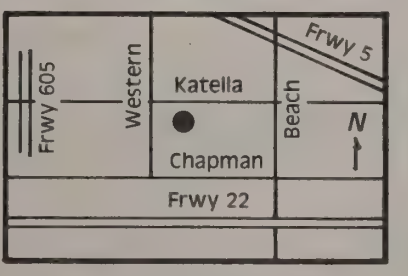

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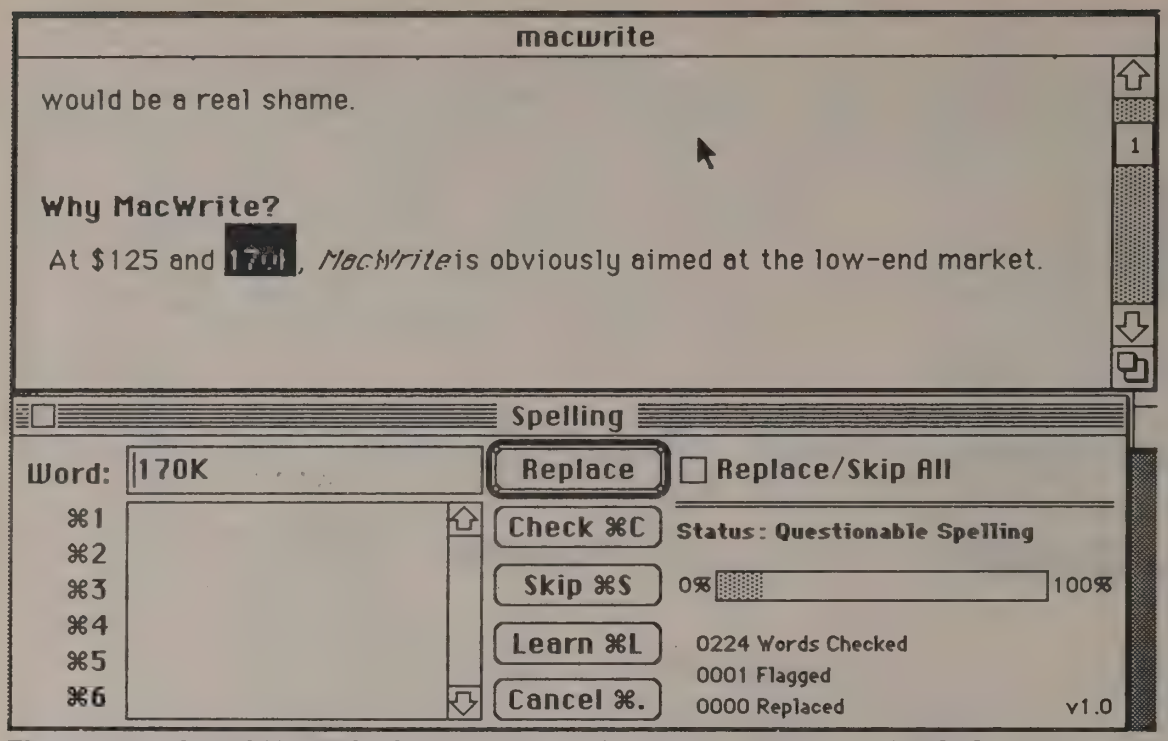

The new version of MacWrite includes a spelling checker with a main dictionary and a customizable user dicitonary.

MacWrite continues to be all the word processor many of us will ever need. This new version enhances and refines many of the features which have endeared it to its users over the years while retaining its admirable simplicity.

ers are a matter of individual preference; my own preference would have been for something else instead, like, say, the ability to have multiple document windows open at the same time, which most self-respecting Mac word processors have offered for quite a while. (You can get around this problem to some degree using desk accessories like *MiniWriter* or *MockWrite,* but that's not nearly as useful as having the application support the function you want in the first place.)

However, while I've heard choruses of outrage at the lack of multiple windows in this day and age, and contributed a few squawks of my own, there are cries of jubilation over a couple of tiny, life-enhancing improvements.

Claris/Apple has greatly improved the functionality of menu commands and their keyboard equivalents with a minimum of disorientation. A few commands are now different and take some getting used to — ^P, for instance, will now send the document to the printer instead of selecting Plain Text, which is now done with ^T. Also, Mac Plus users and other devotees of cursor keys will now find them supported, along with streamlined methods of text highlighting.

The single best new feature is probably the fact that ^S now saves the document, which means, practically speaking, that while you're trying to figure out your next sentence, listening for that elusive word on your interview tape, etc., you can save your document with a keystroke instead of disrupting the flow of your work by pulling down a menu. This godsend originally appeared in *Word,* and it's great to have in *MacWrite.* Another feature available in *Word,* though not particularly intuitively, is a Select All function, for those moments when you've decided your entire 20-page document would look better in bold

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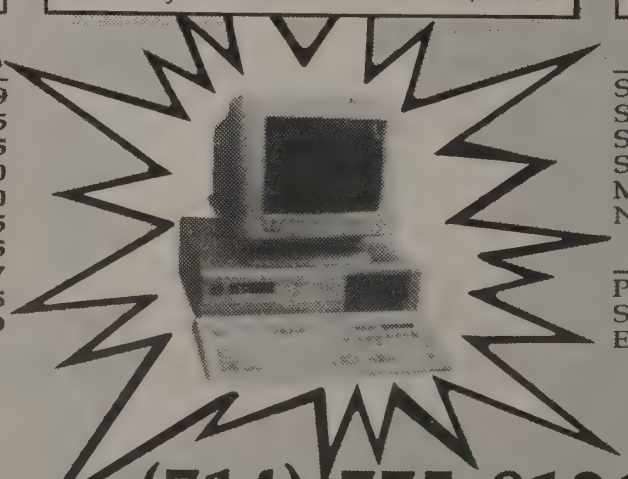

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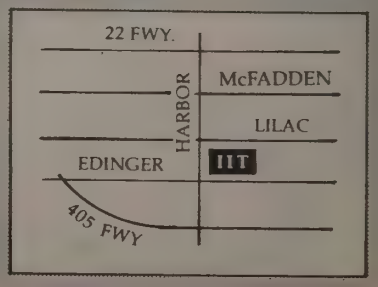

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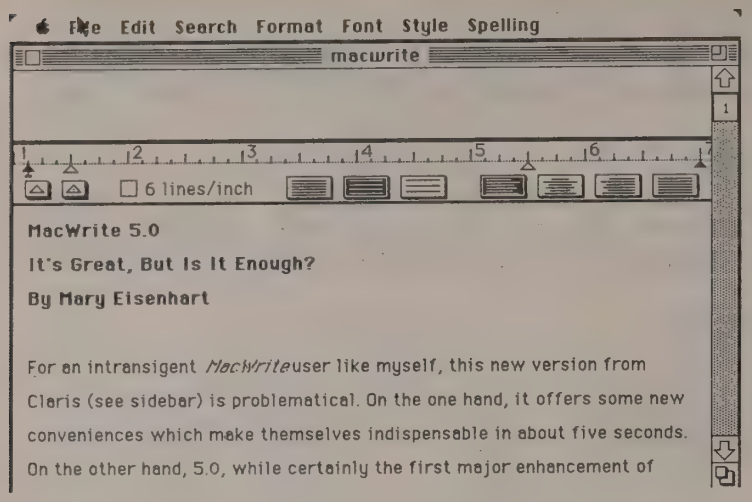
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MacWrite 5.0
It's Great, But Is It Enough?
By Mary Eisenhart
For an intransigent MacWrite user like myself, this new version from Claris (see sidebar) is problematical. On the one hand, it offers some new conveniences which make themselves indispensable in about five seconds. On the other hand, 5.0, while certainly the first major enhancement of

MacWrite 5.0 retains the familiar MacWrite interface.

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italic Zapf Dingbats. Unlike *Word*, *MacWrite* 5.0 Selects All with the nice, intuitive, and Mac-ish ^A.

Yes, But...

If you're a current *MacWrite* user, you've got every reason to upgrade. If you're shopping for your first word processor, this one has (relatively) low price and high ease of use going for it, but may lack some of the features you're looking for.

Multiple windows aside, *MacWrite* still doesn't support two-column text formatting, for instance. Students seem to be going for *WriteNow* in droves because of its footnote-handling capability, which considerably exceeds *MacWrite*'s.

If desktop publishing is one of your main interests, *MacWrite* 5.0 and *PageMaker* will probably take care of your needs admirably. However, *MacWrite* 5.0, though it does allow the insertion of graphics in text and does let you size the artwork, will not let you put a graphic in a block of text, for instance.

One thing *MacWrite* (apparently in company with every other word processor available for the Mac, though I'd be happy to be corrected) lacks, which would be both useful and probably pretty easy to incorporate: the ability to save a selected piece of text as a separate file. Since both *Smartcom* and *MicroPhone* (telecommunications packages both) support this feature, as well as the equally useful Print Selection, it ought not to be too hard to add to a word processor as an option in the File menu, and would eliminate an awful lot of clunky clipboarding.

System Requirements, Etc.

MacWrite 5.0 runs on all Macs except 128K models. Like most programs these days, it's faster and more responsive on a hard disk; assuming you're one of the lucky people who got their RAM while the getting was good, it works nicely under MultiFinder. We've used it on one-meg Pluses and 512s in various stages of upgradedness, both running System 4.2, and found it reliable and trouble-free.

With a couple of exceptions. It is known to have problems with certain INIT files which some applications put in the system folder; the problem is discussed on various Mac BBSes, and fixes are in the works. So if you find yourself with a sudden increase in system bombs after you install 5.0, check with the authors of the package that uses those INIT files.

In our case, we had a nice little toy that turned the watch icon into a whirling yin-yang symbol. So violent was the conflict between 5.0 and this cosmic INIT that the system would bomb with the slightest provocation (mostly when documents were being sent to the printer), whether the luckless user was using MacWrite at the time or not. Once the INIT file was trashed, the problem disappeared.

Conclusions

MacWrite continues to be all the word processor many of us will ever need, and this new version enhances and refines many of the features which have endeared it to its users over the years while retaining its admirable simplicity. It is not, however, all things to all users; in an increasingly fragmented market, other packages may be better suited to particular requirements.

Most of us who currently use this package would like to be able to continue to do so far into the future. Therefore we hope Claris will make aggressive efforts to maintain and increase *MacWrite*'s market share by keeping its features current and competitive, without sacrificing the clarity and ease of use that drew us to the package in the first place. (Claris, 440 Clyde Ave., Mountain View, CA 94043. 415/960-1500. Registered users of *MacWrite* 4.5 and 4.6 should call 800/544-8554 for upgrade information.)

MACINTOSH BUYERS GUIDE

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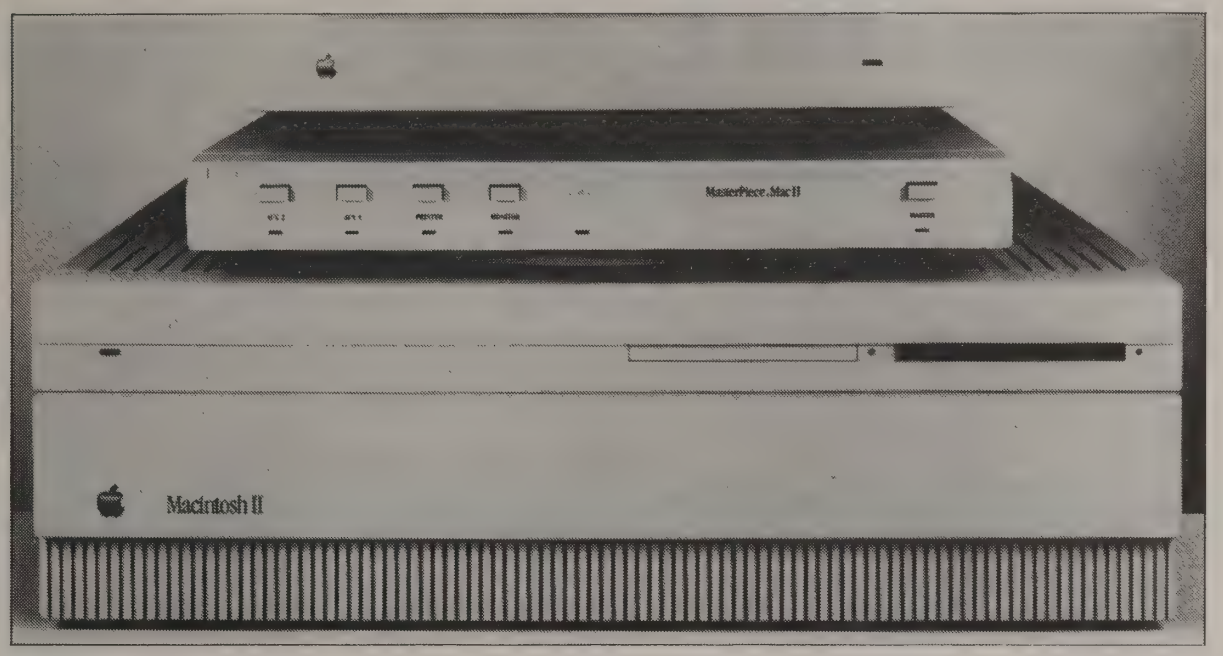
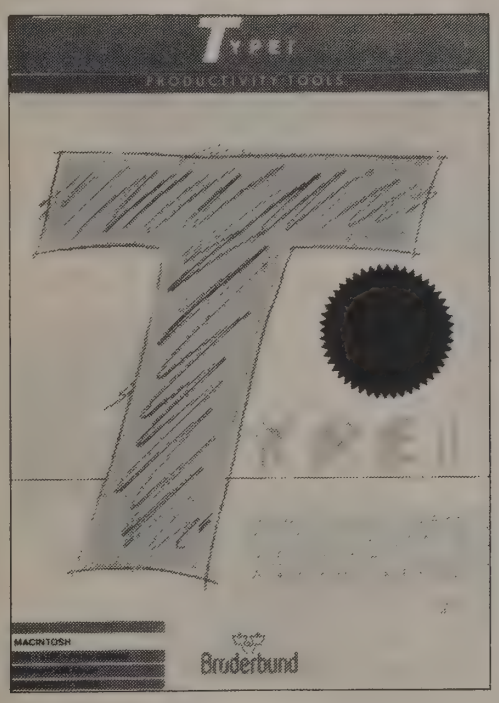


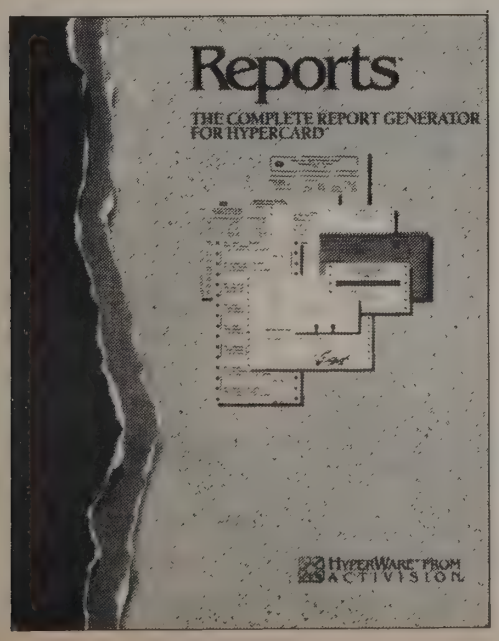


Type! Teaches Typing Skills For Keeps

Type! from Brøderbund Software takes advantage of extensive research on how people learn to type and combines that with the capabilities of the computer to create a program designed so you can learn to type quickly, accurately and for keeps. *Type!* is also valuable for those who already know how to type, as it has challanges for intermediate and advanced typists as well as beginners. It includes special drills focusing on certain skills as well as providing advanced diagnostic capabilities that measure speed and accuracy by finger, hand and letter. ($49.95) Brøderbund Software Inc., 17 Paul Drive, San Rafael, CA 94903-2101. (415) 492-3500.

DiskTop Is A Multi-Faceted Desk Accessory

DiskTop 3.03 from CE Software is a desk accessory that will find, copy, move, delete, rename and launch files from the desktop while you're working within applications. It will also erase, eject and unmount disks, create new folders, set default and preferences among a number of other features. The *DiskTop* package also includes two bonus accessories, LaserStatus, that monitors and aids laser printer activity, and *Widgets,* a potpourri of utilities in one program. CE Software, 801 73rd Street, Des Moines, Iowa, 50312. (515) 224-1995.

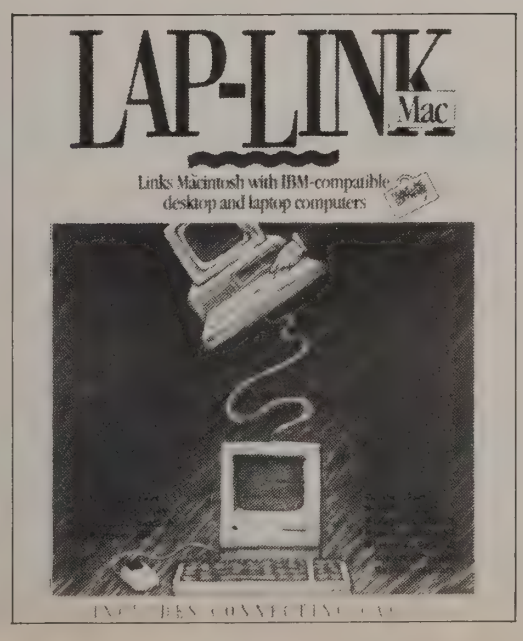


Generate Reports From HyperCard Stacks

Reports from Activision lets you generate reports from the information already stored in your *HyperCard* stacks. You select the information fields from any card or stack and design a report with the layout editor. It allows up to five levels of sorts and breaks in any report. *Report* takes advantage of the Mac inteface by allowing your reports to contain any combination of fonts, print styles and graphics. Because it is a Hyperware product it allows access to all HyperTalk comands and scripts. Activision, Inc., P.O. Box 7287, Mountain View, CA 94039.

Connect Macs And PCs With Lap-Link Mac

Lap-Link Mac from Traveling Software lets you transfer files back and forth between Macs and PCs at up to 57,000 baud. Using nothing more than a four way cable and software, Lap-Link Mac connects any IBM-PC or compatible desktop or laptop computer, including the new PS/2 models, to any Macintosh, 512, Plus, SE or II. On the screen Lap-Link Mac offers a split-screen design that show you which files your working with, making it easy to transfer PC subdirectories into Mac file folders. Traveling Software, 19310 North Creek Parkway, Bothell, WA 98011. (206) 483-8088.



Quattro

Performance And Graphics Power You Don't Need A 386 To Use

By Woody Liswood

Quattro is one of three new spreadsheets which have helped to fragment and disembowel the spreadsheet marketplace. *Quattro, Lucid 3D* and *Excel* are all attracting raves and winning market share from *Lotus 1-2-3* (and, incidentally, from *VP-Planner*).

While I have plenty of company in thinking that *Excel* is the best spreadsheet currently available, *Excel* has some drawbacks — notably that it only runs under *Windows 2* or *-386*, requires at least 1.5MB of memory and runs best in the 386 environment. So to take advantage of its power and features you'll probably have to upgrade your hardware.

Lucid 3D is an excellent full-featured spreadsheet, but it's a TSR or memory resident program with limited capacity for a single spreadsheet. It does allow the chaining of spreadsheets so that a single cell in one spreadsheet refers to an entire spreadsheet on a lower level. *Lucid* also makes no attempt at imitating the Lotus look and feel and has its own methodology of menus.

Quattro, the subject of this review, is a *1-2-3* clone, in that you have the option of setting up a *Lotus 1-2-3* menu structure. You can install it permanently during the installation process or switch to it after booting the program.

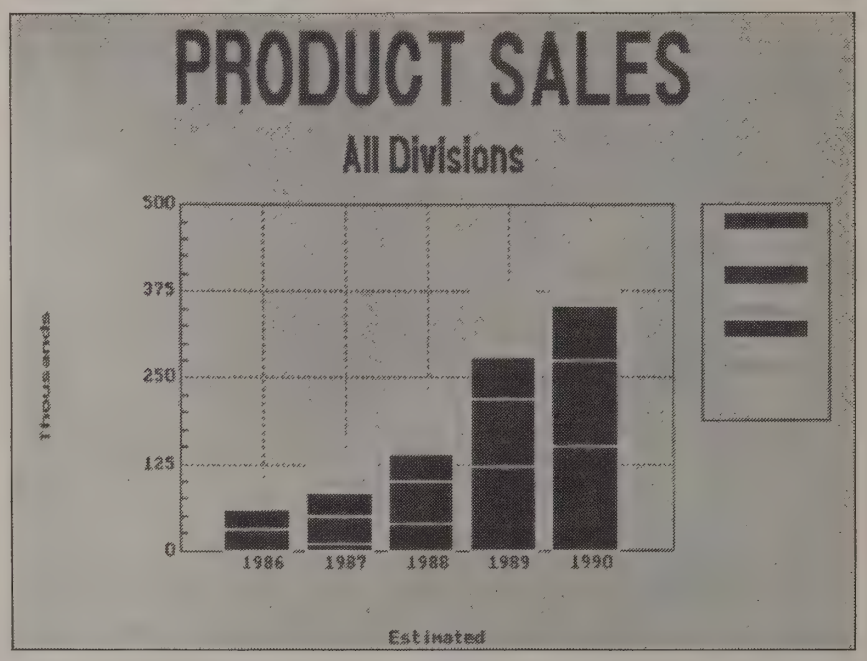
Why Quattro?

So is *Quattro* better than Lotus *1-2-3*? *Yes*. It is faster, has more functionality, has better graphics, and is generally the top of the line for the type of spreadsheet which started with *VisiCalc* on the Apple II.

Should you switch? That's a more difficult question. If you are just buying your first spreadsheet, and do not have the hardware to go the *Windows/Excel* route, then *Quattro* is the best purchase you can make.

However, if you are part of a big corporation, switching means that at some point your spreadsheets will be incompatible with those of the *1-2-3* users. *Lotus* also has a myriad of add-in products which give it additional features and functionality. On the other hand, if you know *1-2-3*, you can easily learn *Quattro* by installing the *1-2-3* menu structure and then work your way into the additional features. (And, just to confuse the issue, the most cost-effective spreadsheet may be *VP-Planner*, a pure *Lotus 1-2-3* clone with added functionality in the data management area and better pricing than either *1-2-3* or *Quattro*).

So is Quattro better than Lotus 1-2-3? Yes. It is faster, has more functionality, has better graphics, and is generally the top of the line for the type of spreadsheet which started with VisiCalc on the Apple II.



Quattro allows the user to easily customize graphs for particular needs.

Quattro reads and writes *1-2-3* files. The major differences between *1-2-3* and *Quattro* start with ease of use. *Quattro* is not copy protected. It comes with three manuals: a user's guide, a reference guide, and a Getting Started guide. It also comes on both 5-1/4" and 3-1/2" 730K disks.

Quattro is smarter than *1-2-3*. It automatically detects the type of system you are using and works correctly. The installation is simple. Create a subdirectory. Copy the files. Run the program. Select your printer.

Quattro is faster than *1-2-3* because it uses what is called "minimal recalculation." *Quattro* only recalculates the cells and formulas which have changed, rather than the entire worksheet.

Although the documentation states that *Lotus* macros run directly, I found that only *some Lotus* macros run without modification. One of my major spreadsheets contains long and involved macros, and did not run (and did run under *VP-Planner*); if macros are important to your operation and you don't want to have to redo them, you should test your spreadsheet with *Quattro* before purchasing the program. On the other hand, there is a built-in macro recorder, as well as a transcript recorder which records your keystrokes and helps in significantly reducing the time you must spend to create and test your macros. You can also have an "unlimited" number of macros rather than the 27 *Lotus* offers.

Quattro also has excellent support. If you are a CompuServe (CIS) member, G BORLAND will take you to technical support to help you with many of your problems. (You may be a bit daunted by some of the bug reports and fixes; as with most brand-new software, there are glitches, idiosyncrasies and bugs which only appear through continued use. Many of the reported problems revolve around printers and printer control. If you have an off-brand printer, it may be worthwhile to test *Quattro* with the printer before making a final purchase decision. I tried to duplicate some of the problems mentioned on the SIG and could not, which may be a matter of the bugs being already fixed in my review copy or may be dependent on specific hardware and software configurations.)

What's Different?

Needless to say, every function which is in *Lotus 1-2-3* appears to be in *Quattro*, along with many more available functions and menu commands.

Quattro also supports expanded memory. I used QEMM.SYS on a ALR 386 with 2MB of memory, and *Quattro* used the memory. The documentation specifically states that *Quattro* supports the AST RAMpage, Intel AboveBoard, Quadram Liberty and STB MEmory Champion.

The first difference you will notice is the ability to set your menu system to whatever you wish. You can use either *Quattro* defaults, or redefine

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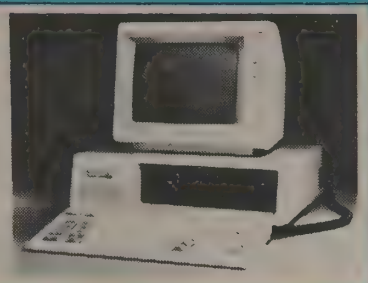

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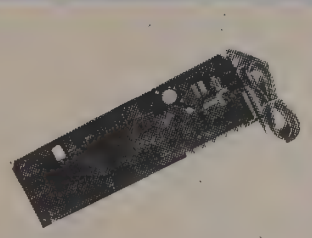

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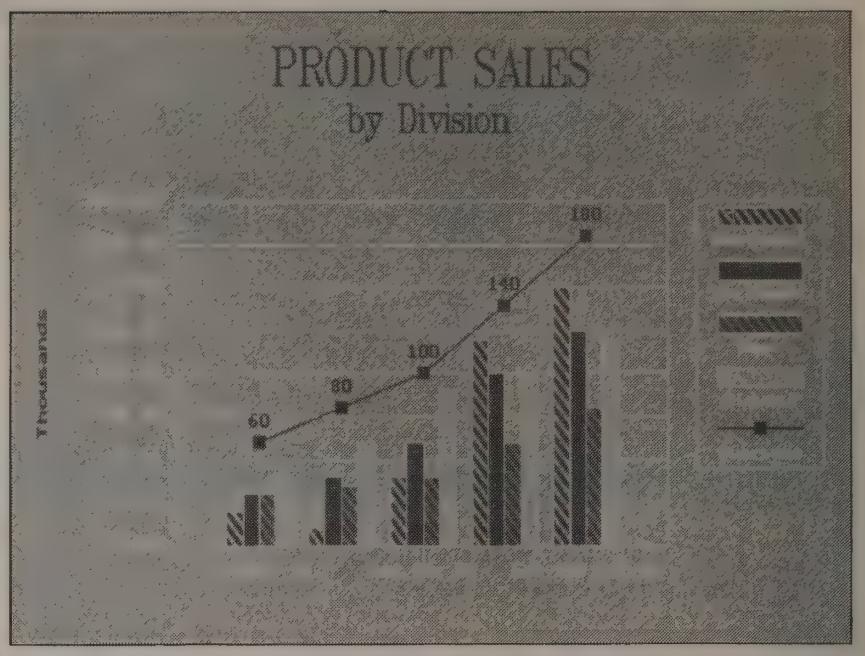
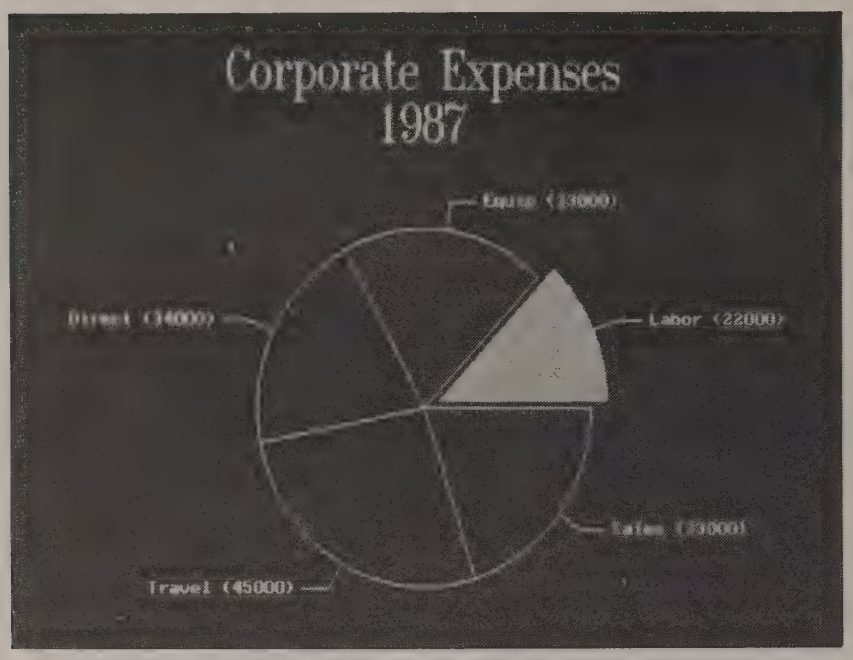


Quattro offers fast processing speeds, a user-customizable interface, and amazing graphics capabilities at a fraction of 1-2-3's price.



Users can choose among ten graphics options and customize patterns, colors, titles and fonts.

the system as a *1-2-3* menu structure. Even then, the file names will pop up in a vertical window rather than across the horizontal menu line, probably for look-and-feel reasons. You can also redefine the menu structure to anything you wish and customize *Quattro* to your personal tastes as to what should be where.

If you're worried about your ability to import and export many different types of files, you'll be pleased with the way in which *Quattro* supports file translation. When you specify the file extension during either a load or a save operation, *Quattro* will create the file in that format: ".DB" for *Paradox*, ".DBF" for *dBASE III*, ".db2" for *dBASE II*, ".WRK" for *Symphony*, ".WK1" for *Lotus 2.0*, ".WKS" for *Lotus 1A*, and ".WKE" for Lotus educational — whatever that is.

SQUEEZE is also bundled with *Quattro;* if you include the various SQZ file extensions, *Quattro* will automatically compress your file to help save disk space.

Sorting is done nicely. You can have either a true alphabetic sort with both "A" and "a" sorting together, as well as a true ASCII sort with the symbols arranged by decimal order.

Quattro has a transposition function: the BLOCK ADVANCED TRANSPOSE command will change the rows to columns and the columns to rows for the defined BLOCK.

Among *Quattro*'s major functions are one-way and two-way sensitivity tables, which are explained at some length in the documentation. An experienced spreadsheet user might wonder why, since the entire process as illustrated could be done faster and easier with a simple formula.

However, the use of the one-way and two-way tables with a database is a significant feature. You can query the database for Counts and Averages using either numeric or alpha column information. For example, the formula @DCOUNT(A2..D15,1, F3..F6) says to count in column 2 (the first column is column 0) of the block starting at A2 and ending at D15, and give the count of the total number of items found in column F3 to F6. This type of built in syntax means no longer will you have to type long involved Boolean type of operators to get a count or average of a specific item in a database.

Matrix Multiplication is also supported. If you solve linear equations, you can have as many columns as you have rows. I tried the example in the documentation and it worked. I couldn't think of a real life problem to test. If any of you use linear equations in the real world, I would appreciate hearing about it.

Dates are also easier to enter in *Quattro*. Precede the date with a Control D and enter the date as you would normally type it...3-5-42 for March 5, 1942.

Regression analysis in *Quattro* provides the statistics you may need in their own table. Included are the Y intercept, called by *Quattro* the constant, the Standard Error of Y estimate, R squared, N, Degrees of Freedom, X Coefficients and Stand error of Coefficients. Everything is linear.

Maybe an update will allow true curve fitting, when a data set can be regressed a number of different ways such as linear, polynomial, power, exponential, and logarithmic, so that the best fit can be seen at a glance. Also nice would be an automatic graphic of the results of regression with the predicted values plotted through the scattergram of the raw data.

If you import significant amounts of data into your spreadsheets, the PARSE command will be convenient. You load your ASCII file as a label into a single column. Then you parse the data using your cursor and a special format line. When done, *Quattro* parses the column and moves each of the columns indicated into a separate column.

Quattro's graphics really shine. You can create professional looking graphics using 10 different types: Lines, Bars, 3-Dimensional Bars, Stacked Bars, XY, Pie, Area, Rotated Bars, Markers, and Combined markers and lines are all available.

Quattro also contains all of the functions within the basic menu structure. To print graphics you no longer have to exit the main program to find the printing menu.

The graphics program also allows you to save the graphics in a EPS file, which can be imported into programs which use PostScript or a standard *Lotus* PIC file. To test compatibility, I loaded the PIC file into *Freelance* just to see if it would be recognized. It was.

If you have felt constrained by Lotus 1-2-3, but cannot afford to move up to Excel, Quattro is an excellent choice.

As you can see, *Quattro* does everything that *Lotus 1-2-3* does, and then adds significant features. It is a major spreadsheet. It can do any typical and not-so-typical spreadsheet application which you might find useful. If you have felt constrained by *Lotus 1-2-3*, but cannot afford to move up to *Excel*, *Quattro* is an excellent choice. (Suggested retail on *Quattro* is $195; for information contact Borland International, 4585 Scotts Valley Drive, Scotts Valley, CA 95066, 408/438-8400.) □

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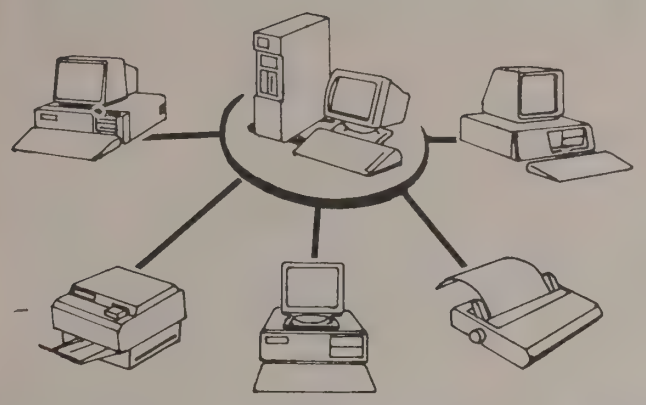

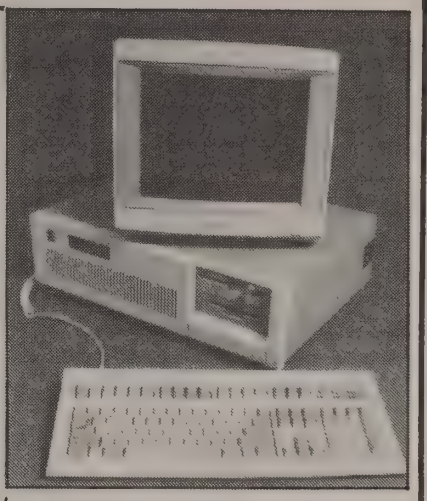

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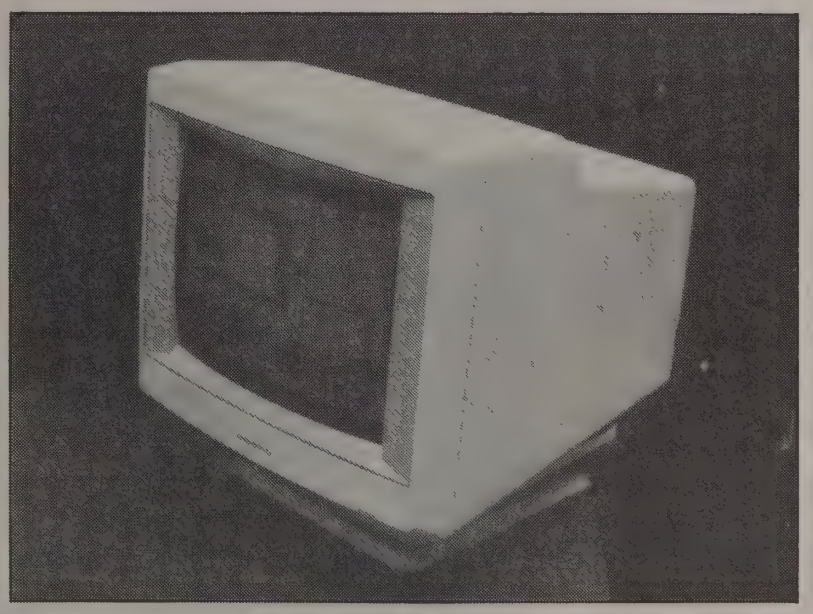

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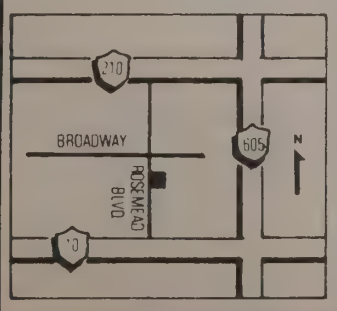

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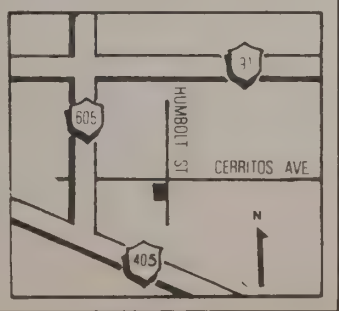

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Boeing Calc Version 4

Spreadsheet Functions In The Third Dimension

By Steve Guttman

Welcome to 3-D — and you don't even need glasses!

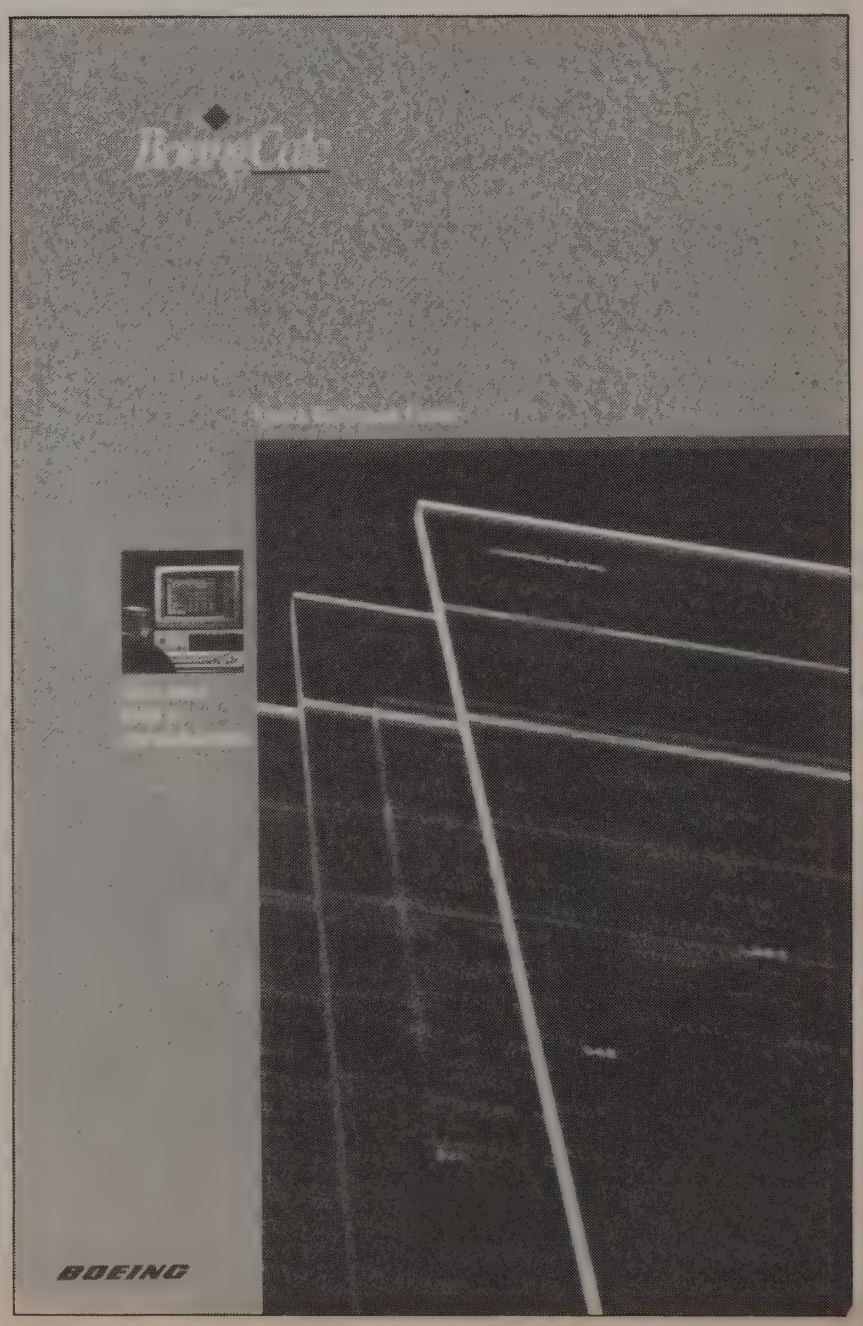
Boeing Calc, by Boeing Computer Services, is a 3-D spreadsheet that extends the capabilities of a normal spreadsheet into the third dimension. If *1-2-3* could be called a piece of electronic ledger paper, then *Boeing Calc* is a ledger book.

Let's face it. There are a lot of spreadsheets out there. And the problem with so many of these programs is not so much their functionality. It's that they're *1-2-3* after-rans. You know, the Terry Malloy (from *On The Waterfront*) syndrome — "I could have been somebody. I could have been a contender, instead of a bum, which is what I am. If only I had gotten there before Lotus." *Boeing Calc*, on the other hand, is one of the few programs that goes *1-2-3* one better.

Why? It's that third dimension.

The advantages of the 3-D approach are obvious — it's simply a more natural way of solving problems. Most real problems involve interactions between related entities — a balance sheet, income statement and cash flows, for example. With a typical spreadsheet you're forced to either use different worksheets for each set of calculations, in which case you have to write elaborate macros to transfer information. Or you can banish some of your calcs to the outer reaches of your spreadsheet — you know, cells HK2020 to IL3200, which is Never Never Land in my book. What you really want is the ability to quickly move between subproblems, and let the spreadsheet take care of the interactions.

Boeing Calc meets this challenge



by carrying through the electronic page/book analogy. In fact, files are called workpads, not worksheets. The F4 key toggles the user between page and pad modes. In page mode the PGUP and PGDN keys moves the cursor from screen to screen within the same worksheet. However, in pad mode, PGUP and PGDN moves you through the third dimension, traveling forward or reversing into different worksheets or pages.

Thus, cell addresses must contain row, column and page information. They are prefixed by the current page number — "2D4" refers to cell D4 on page 2. And lest you worry about running into memory limitations on workpad size, *Boeing Calc* implements a virtual memory scheme (swapping data to disk when memory fills) allowing spreadsheets as large as 16,000 rows, 16,000 columns, and 16,000 pages. At over four trillion individual cells, that slightly tops the *1-2-3* R2 limit of 256 x 8192.

The *Boeing Calc* screen will be hauntingly familiar to *1-2-3* aficionados. It's basically your old friend (or nemesis). The command structure, the top-line menus, the cell format, and mode indicator — all in the Lotus style.

While menus are quite similar to *1-2-3*'s, they are not keystroke-for-keystroke identical. For example, the *1-2-3* File-Erase (/FR) is File-Create (/FC) in *Boeing Calc*, and the *1-2-3* Range-Label (/RL) becomes Range-Align (/RA). This shouldn't be any cause for confusion. The differences are, for the most part, self-explanatory, and if they aren't, *Boeing Calc* has reasonably good context-sensitive help.

continued on page 104

The Zealot's Tale

By Bennett Falk

In the dead middle of a moonless night, a black-clad figure sneaked into an unlit terminal room in the computer science building of a major university. The intruder traced his way methodically among the fifty or so carrels, pausing at each only long enough to pry loose two key caps from the workstation's keyboard.

Suddenly the door was flung open and the room filled with noise and light. A campus police officer bellowed "Hold it right there!"

Seeing the only exit blocked, the intruder standing at the center of a sea of cubicles surrendered. The cop beckoned the intruder to the edge of the room and frisked him for weapons. Finding none, he ordered the intruder to empty his pockets onto the table. In addition to a wallet, some keys, and a small wide-blade screwdriver, there were dozens of key caps from terminals. He sized up the intruder, a thin, young man dressed in jeans and a black sweatshirt that had "Lukasiewicz Lives!" printed on the front in red letters. He had a scraggly beard and wore black, hightop basketball shoes.

Eventually the cop broke the silence, "Look, I've got to arrest you for just being here anyway, and you've got the right to remain silent, and all that, but would you mind telling me just what the hell is going on here?"

"It's a long story," the boy answered tentatively.

"That's okay," the cop sighed, "It's a slow night."

"Well, you see these terminals? They're all attached to a bunch of computers that use the UNIX operating system. Every day hundreds of people come in here, sit at these workstations, and use those computers. A lot of those people are going to do nothing fancier than arithmetic.

"When you do arithmetic on a UNIX system, you can use either of a pair of programs: they're named 'dc' and 'bc'. 'dc' stands for 'desk calculator', I don't have any idea what 'bc' stands for. Now why do you think there are two programs to do arithmetic?"

"I dunno, maybe they do different kinds of arithmetic."

"Nope, arithmetic is arithmetic. The important difference between the two programs is just that they let you write out the calculation you want to do in different ways."

"What are you talkin' about?"

"When you think of arithmetic, you probably think something like '2 + 2.'" For emphasis, he picked up a piece of chalk and wrote this on a blackboard.

"The '+' sign is called an 'operator' and the twos are what's being operated on, 'operands'. The common operations in arithmetic are binary operations, that is, each operator has two operands. And when you write '2 + 2', you're using something called 'infix' notation; the operator is in between its operands.

"At the '2 + 2' level the infix format probably works okay, but people who do a lot of arithmetic outgrow '2 + 2' pretty quickly. I mean, what do you do with '12 / 2 * 3'? Do you divide 12 by 2 and multiply the result by 3, or do you perform the multiplication first and so divide 12 by 6?"

"I don't know," the cop replied.

"Well, neither do most people. To avoid confusion, infix formulas usually have to be parenthesized so the order of operations is unambiguous. Depending on what you meant, you could write either (12 / 2) * 3 or 12 / (2 * 3)."

"Okay, fine."

"That's easy for you to say, but it doesn't take much for a formula to get very complicated, and somebody with a lot of arithemetic to do just might wind up spending most of their time checking the placement of the parens.

"So there's another way to write things out; it's called 'Polish notation' because it was first proposed by a Polish mathematician, a guy named Jan Lukasiewicz." He gestured proudly at the slogan on his shirt.

"Standard Polish notation uses the operator as a prefix for the operands. What is written as '2 + 2' in infix, becomes '+ 2 2' in Polish or 'prefix' notation. Polish notation works pretty well for symbolic logic, but most people who try to do arithmetic in Polish notation prefer the 'reverse Polish' or 'postfix' style in which the operands are listed first followed by the operators. In reverse Polish notation '2 + 2' becomes '2 2 +'.

"If you're used to infix notation, Polish may be a little confusing. It might be helpful to imagine that you're stacking the numbers. When you're reading something in reverse Polish, each new operand becomes the top of a stack and everything already on the stack just gets pushed down a notch. The operators take what they need from the top of the stack, perform whatever function they're supposed to perform and then push the result back on to the stack.

"Now the absolutely most wonderful thing about reverse Polish notation is that you don't need to parenthesize anything! '(12 / 2) * 3' becomes '12 2 / 3 *' and '12 / (2 * 3)' becomes '12 2 3 */'.

"Take '12 2 / 3 *', for example. You read along and first push 12 on the stack and then 2 and then you read '/', the division operator. Well, you know you need two numbers to perform that operation, so you just take the two top numbers off the stack, do the division and then push the result back on the stack. Next up is a '3' and that's an operand so you push that onto the stack. Then comes the multiplication operator: that requires two operands, so you take the top two values on the stack, perform the multiplication, and then push the result on the stack. In the end you have one number on the stack which is the answer."

"This is giving me a headache," the cop complained.

"Well, don't make it harder than it needs to be. You don't have to do the calculations, in fact, you don't even have to think about operators and operands. All you have to do is enter things in the right order, and after all, you'd have to do that regardless of which notation you were writing in."

"Yeah, I suppose, but does anybody really use this Polish stuff?"

The intruder tried to suppress his aggravation. "Lots of people use it, and most of them feel like it's a more natural way to write out arithmetic than infix notation. Hewlett-Packard has done very well making hand-held calculators that use Polish notation, and it's even embodied in some programming languages, like FORTH.

"The problem is that there isn't a single calculator that reads both notations, and the infix style is dying really hard." The cop noticed that the intruder was beginning to look a little wild-eyed.

"Take 'dc' and 'bc', for example, 'dc', the one that uses reverse Polish notation, is a true calculator: it lets you do arithmetic with arbitrarily large numbers, like with 500 or so digits. 'bc', on the other hand, isn't really a calculator at all: it's just a compiler that takes statements in infix notation, translates them into reverse Polish, and then passes the translations to dc to be executed."

The intruder's voice took on an impassioned edge: "Now don't get me wrong. 'bc' is a very good compiler. It works a lot like a programming language for arithmetic. You can use it to write formulas and store them for use later. You can do 'if' tests, and 'for' loops and all sorts of nifty things. In fact, you can use it to teach yourself Polish notation by invoking it with the 'compile only' option ('bc -c') and reading the output.

"The trouble is that 'bc' can also be used as an excuse to put off learning Polish notation. And just between you and me, I think someone out there is manipulating the documentation so there's less information about 'dc' for the casual user."

The young man's voice dropped suddenly to a conspiratorial whisper: "Did you know that the section on 'bc' in the Xenix User's Guide doesn't even mention the fact that 'dc' does all the real calculating work?"

"Uh, no, I didn't know that," the cop said evenly.

"Well, there you are," the intruder gestured triumphantly, "It was the only way. I had to do it."

"Do what?" The cop appeared to have forgotten that he was making an arrest. He toyed idly with the key caps on the table and noticed for the first time that they were all either left or right parens.

"The keys, the keys! Without those keys everyone will have to use 'dc'! 'bc' will be worthless. Think of the time that will be saved!" □

Copyright © 1988 by Bennett Falk. Bennett Falk lives in the Bay Area and works for Sybase, Inc. He writes whenever he can and hopes for the best.

Electronic Privacy 101

By Brock N. Meeks

Electronic privacy rights. They lie in a grey area of the law. The Electronic Communications Privacy Act of 1986 went a long way in helping to define what constitutes an invasion of electronic privacy. But that's where it stops. As yet, no case has come to court under the ECPA. Until now.

In March of this year, a BBS user filed a lawsuit in Indiana federal court under the ECPA. Linda Thompson, a third year law student (and sysop) filed her suit against the Bob Predaina, sysop of the Professional's Choice BBS. Thompson alleges that Predaina took several of her private messages — which she had deleted from the system — and "opened" them to public viewing.

"I logged on one day to find that several private messages I had deleted suddenly appeared in an open public conference," Thompson said. "I called, figuring something went wrong. He (Predaina) refused to talk about it. Then several days later, I find some of my private electronic mail had also been 'opened' and spread around. I was dumbfounded, to say the least."

If all that sounds like the perfect equation for a lawsuit, it is. "I couldn't believe there wasn't some kind of law against this sort of thing," Thompson says. "I went looking and found that the ECPA covered just this sort of action. I didn't even know it existed before this."

And I venture to guess that the majority of BBS sysops don't realize it exists, either; but sysops had better take note: if they mess around with someone's private messages, making them public, they are going to be held accountable to the full extent of the law.

ECPA 101

The ECPA, which went into effect January 1, 1987, provides federal protection of computer communications, both in transmission and while in storage on a remote host's disk. This was an important statute because it set the ground rules for protecting your private electronic communications; your electronic communications *do not* have any federal constitutional privacy protection. Why? Because you there is no "objective reasonable expectation of privacy" when a third party (in this case, a sysop) has access to those communications.

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Sysops had better take note: if they mess around with someone's private messages, making them public, they are going to be held accountable to the full extent of the law.

"Constitutional privacy is doesn't hold for private electronic mail if a BBS operator or an employee of a commercial computer service (like the WELL) readily have access to and look at and read the private electronic correspondence," says Mark Rottenburg, general counsel to the U.S. Senate subcommittee for Technology Law.

It should be common knowledge to anyone familiar with how a BBS, or other online service, works that the system operator has ready access to read *anything* on that system. Such is the nature of the medium. However, "This is where ECPA comes in to play," says Rottenburg. "It fills this 'knothole' by saying such private computer communications are given statutory privacy protection."

Specifically, this protection says that a sysop, although able to read your private messages, *cannot*, under penalty of law, make the contents of those messages known to anyone other than the recipient or "authorized agent." (An authorized agent being someone that you've told the sysop is "OK" to see your mail. This might come into play if you're going to be gone for an extended period of time, and you want your "agent" to check your mail for you.)

It should be noted, however, that the ECPA provides for expectations regarding governmental investigations. Given proper authority, and an exacting search warrant, a sysop must provide the proper authorities with copies of any correspondence, private or otherwise, as outlined in a search warrant.

Although it's ethically unacceptable for a sysop of any computer system to rummage through your private files, it happens. Either during routine file maintenance or by deliberate action, sysops do read private messages. Some are open about it. "I read every piece of mail that goes through my system," several sysops have told me. Their defense: "I want to make sure nothing illegal is going on." Well, OK. I don't like that attitude, and personally, I wouldn't participate on that type of system, but it's an arguable point. (I might add that on commercial systems, I've never heard this line of reasoning from management; however, I do have a 20K file of "cases" where people have given me documented proof that their private mail is being read on large commercial systems.)

Bottom line here? Nothing is safe from the sysop. But if that sysop discloses any of what he or she sees, it's grounds for a major league privacy violation. Such are the grounds for Thompson's case I mentioned earlier.

"The message and intent of the ECPA is clear: You can't mess with a person's electronic privacy," says Robert Smith, publisher of the Washington, D.C.-based *Privacy Journal*.

Unless, of course, you happen to be a corporation.

Corporate Privacy 101

Where do the privacy rights of an individual stop and the rights of the corporation begin? As soon as you step through that door at 8 am.

"First of all, please keep in mind that ECPA extends the centuries-old postal privacy concepts and more recent voice wiretap privacy principles to data transmission. Those traditional communications privacy laws *don't include* office mailrooms or corporate electronic mail systems," says Mike Cavanagh, executive director of the Washington, D.C.-based Electronic Mail Association, and one of the ECPA's coauthors.

Imagine, for a moment, that you're heading up a movement to unionize your workplace. The company has branch offices in several parts of the country, and you've been spearheading the effort, via the company's electronic communications network. Via a series of extensive — private — Email exchanges, you've developed an ad hoc

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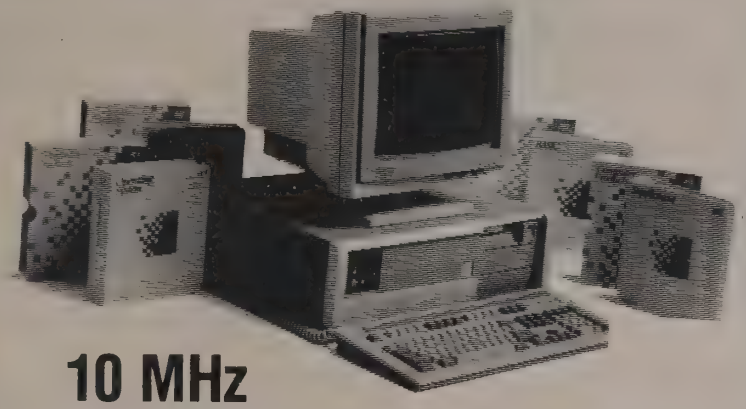

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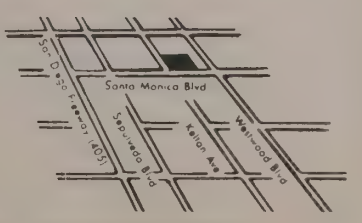

group of union organizers at each location. So far, so good.

With a carefully thought out strategy, you've decided to press the issue, simultaneously, during a meeting with on-site management personnel. Timing is crucial. The big day arrives and you stride into the meeting confident that your strategy is sound, and that you've got the upper hand in the negotiations. But something happens. Management blocks you at every turn. Your brilliant presentation is summarily destroyed. It's as if management had been expertly briefed on your every move. Shades of the infamous Carter/Ford debates run through your head. You've been defeated.

Back in the office, you dash off several Email messages. The response from your colleagues around the country is the same: crushing defeat. The story is the same: it's as if management knew exactly what you were going to propose. And in truth, they did.

Unknown to you, management had requested the company's network manager to print out all your "private" electronic correspondence, all your private files. Your electronic privacy was violated. Or was it?

Just how much privacy do you have when it comes to a corporate communications systems? "Zero," says Jerry Berman, general counsel for the ACLU. "There are no privacy protections for these internal communications systems. Even if that system extends nationwide." As to the hypothetical case of the union organizer? Berman says: "How many union organizers keep their files integrated into their own files in a manual file system? Where the boss can come in, rifle the filing cabinet, and find out what's going on? A union organizer that is keeping his protest files and organizing files on the company computer is a dope."

Anyone that believes there is some kind of privacy rights for their files on a company system is a dope. In the corporate world, there is no protection for your private files. I call it the "Ollie North Syndrome." Doubtless, you can think of more colorful language.

And by extension: Anyone that believes there is some kind of privacy rights for their files on a company system is a dope. In the corporate world, there is no protection for your private files. I call it the "Ollie North Syndrome." Doubtless, you can think of more colorful language.

"The ECPA doesn't provide protection in the private sector," says Berman. "That doesn't mean there shouldn't be some kind of protection. But to get that language into the ECPA would have killed the bill. The ECPA went up to the water's edge (regarding protections for electronic communications in the private sector) and stopped.

"Employees should realize they have no such protections. They shouldn't be operating under the assumption that there is a right of privacy."

Privacy 201

Where does this leave our precious privacy? In the public sector, as in BBSs and systems like the WELL, pretty straightforward. Sysops have to realize that BBSs aren't just a "hobby" anymore; there's a good deal of responsibility that goes with handling *any* communications tagged with the lable "private." Violate that privacy, and you could find yourself on the receiving end of a federal lawsuit.

"I think we want to be very careful about saying that new technologies like electronic mail should be under an entirely different regulatory scheme than traditional ways of doing things," says Cavanagh. "I don't think in many instances we'll have a good case for that, and it could damage our efforts to achieve consistent treatment, which is what ECPA is all about."

The Thompson case, if it is decided in the courts (at press time, there seems to be a feeling between the parties involved that an out of court settlement will be reached) will put a precedent on the books, and "teeth" into the ECPA.

And if you're in a corporate environment? You're out of luck. "The best thing you can do is try and get your company to set up some kind of corporate guidelines with respect to electronic privacy," says Berman.

Either that or keep all your private correspondence in your briefcase, not on the company computer.

The bottom line is that electronic communications are still rather fragile. And like it or not, the best insurance policy for keeping your correspondence private is a 25 cent stamp. □

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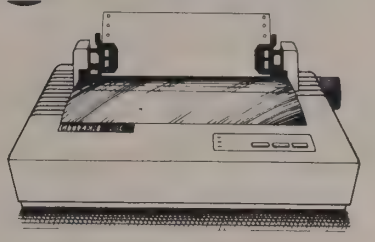

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Macro Economics

Aids For The Connectivity-Minded Spreadsheet Warrior

By Robert Grant Beauchamp

The task of a spreadsheet user is not an easy one, folks. Faced with designing complex spreadsheets, complicated formulas, repetitive number crunching, the specter of inaccuracy, and the same old format every day, anything, *anything* that makes this job easier is extremely welcome. But to add the further indignity of having to import someone else's spreadsheet data from a different program on a different machine can almost be too much. You can imagine the gallant *Excel* spreadsheet warrior marching down the office hallway into Joe Lotus' office demanding to know how he came up with *that* one. "Oh, I created a macro. It's really simple." (He's lying.)

Is this what the information age was supposed to be all about?

If you have been using Microsoft *Excel* for the Macintosh, you're probably convinced that it's the best spreadsheet available if not the best application available for the Mac. And if you have to deal regularly with the DOS world in either home or office, you've also been holding your ground against the monumental tide of spreadsheets now flooding the DOS market.

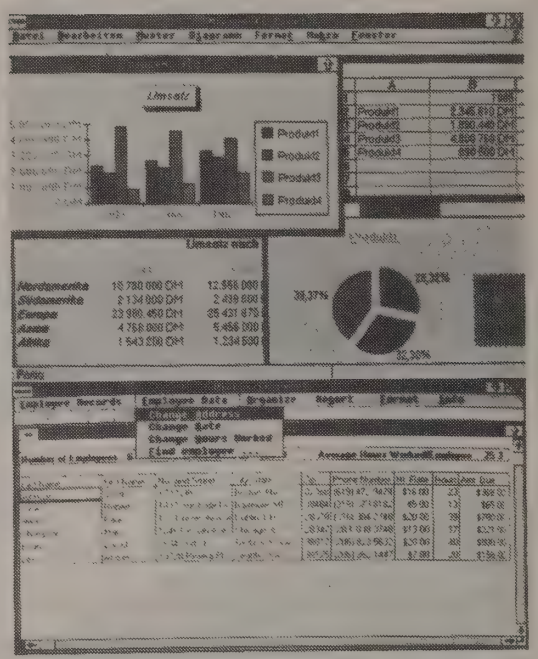
Converting files from spreadsheets created on a PC for use on a Mac is relatively simple using a network solution such as TOPS from Sun Microsystems. But this still leaves the problem that more than one spreadsheet is being used — and that means twice the effort in learning how to use the applications, designing your spreadsheets and creating macros to make the work go faster. The good news for those who use *Excel* on the Mac and must connect to DOS machines is that *Excel* is now available on the PC.

Excel For The PC

In creating the new *Excel* for the PC, the developers at Microsoft weren't satisfied with creating a pale imitation of the Macintosh spreadsheet. Using the new Microsoft *Windows* interface, they have created a spreadsheet the like of which has never been seen on either the PC or the Mac. Some of the features might even make the loyal Mac user wish they had a new IBM PS/2. Well, maybe not a *loyal* Mac user.

Like *Excel* for the Macintosh, the PC version offers a minimal recalculation feature that reduces the time a spreadsheet takes to recalculate by only calculating those cells affected by the changes made by the user. This saves time over the usual method of redoing every calculation even when you want to see the impact of a few minor changes.

Thanks to *Windows*, *Excel* for the PC shares another major similarity with *Excel* for the Mac: the graphical interface. The graphical interface allows for a more readable spreadsheet, the addition of various fonts and type styles, rows that can vary in height, print preview options, and high quality output onto laser printers.



Excel for the PC is a radically new package with well-designed links between the package's components, including database, spreadsheet, and graphic functions.

The *Windows* interface also allows for the creative use of color. Your books can literally be "in the red" by assigning red to all negative numbers. Background shading can also be used to emphasize the most important data on your spreadsheet.

Excel for the PC takes a giant leap for spreadsheets by offering the ability to show multiple sheets on the screen at one time and link them together. To link spreadsheets, all a user has to do is point to the desired data in another window. This linking goes a long way in creating three-dimensional models.

Along with providing a sheet size of 256 columns by 16,384 rows, enough to satisfy the most Homeric of spreadsheet epics, *Excel* for the PC also offers built-in auditing features that help to prevent a small error from becoming a big problem.

Excel for the PC currently runs on *Windows 2.03* and *Windows 386*. Users who purchase *Excel* for the PC now will be able to upgrade to the OS/2 Presentation Manager version, when it is released, for $50. If you do not own *Windows*, *Excel* comes with a runtime version of *Windows* which will enable you to run *Excel* right out of the box.

PC Excel's graphical interface allows for a more readable spreadsheet, the addition of various fonts and type styles, rows that can vary in height, print preview options, and high quality output onto laser printers.

Macros

Macros are said to be the spreadsheet user's best friend. Designed to save time by recording a set of commands and then reducing them to a few keystrokes, macros can also take a lot of time to program and many users don't bother. With *Excel* for the PC, however, programming macros is made easier. Its one-step macro recorder automatically makes a macro from the user's keystrokes. It also makes those macros available to other spreadsheets by letting them be copied from one sheet to another.

For the serious macro user, however, the macro packages to get are *101 Macros For Excel* and *101 Macros For Excel-PC* from MacroPac International. MacroPac is almost legendary for its macro packages, which cover a wide variety of spreadsheet tasks. The documentation for each package gives you a detailed explanation of what a macro is and how it works. Each package also comes with a disk filled with macros so your programming work is minimal.

The macros found in the two *Excel* packages include macros for cursor control, display and window control, editing, database and charting and a number of miscellaneous macros including biorhythms and slide shows. The packages, of course, include calculation, protection and cell identification macros, as well as formula, table, printing and saving macros.

Templates

If you need the power of a spreadsheet but don't have the desire or inclination to create your own worksheets, then you should consider purchas-

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ing pre-made templates. Templates are set up with ready-made calculations and formulas. All you do is plug in the numbers. Financial Calculators from MicroTemp provide an excellent group of templates for *Excel* for the Mac to aid you in your personal, business, real estate and financial planning tasks.

MicroTemp's templates include monthly and quarterly budget and cash flow calculators, real estate investment calculators for capitalization rate and even one for a buyers closing statement. Financial planning calculators include templates for straight line depreciation and double declining balance depreciation. There are profitability, solvency and liquidity calculators as well. MicroTemp's financial calculators are an excellent way to benefit from hundreds of hours of expert spreadsheet planning without paying a lot of money. If the templates in the package don't quite meet your needs, MicroTemp also has a service that will custom design spreadsheets for you.

Felix

As you're leaving the software store with visions of Mac to PC spreadsheet nirvana, loaded down with *Excel for the PC, 101 Macros for Excel* and *MicroTemp Financial Calculators,* there is one more product you might want to add to your pile of goods. Felix from Lightgate is a pointing device for Macintoshes and PCs that takes up less space on the desk than a traditional mouse and uses light rather than a ball and rollers to move the cursor.

The major advantage of Felix on the PC for spreadsheet users is that you can record macros *on the pointing device.* Around the edges and corners of the area in which the pointer moves

Excel for the PC takes a giant leap for spreadsheets by offering the ability to show multiple sheets on the screen at one time and link them together. To link spreadsheets, all a user has to do is point to the desired data in another window.

are twelve "hot spots." By using the ctrl, shift and alt keys Felix creates five levels of these "hot spots" that can be programmed to respond the way you want when you signal them. You can therefore program up to sixty different things on your Felix, from simple cut and paste to complex *Excel* macros. You just move the pointer to the edge of the device, hit shift, alt, control or some combination of the three and click. Macro magic.

Felix's macro abilities are not currently available on the Macintosh, however. Felix is also not compatible with *Windows 386.* Registered users will be able to upgrade as soon as Felix is compatible with *Windows 386.*

The task of connecting Mac and PCs is made simpler when there are Mac and PC versions of a software package available, especially when both those products are as impressive as *Excel.* While you could translate your *1-2-3* files into *Excel,* you save a lot of time by not having to do this. You also save time by not having to learn two very different spreadsheets. It may be true that spreadsheet warriors are the unsung heros of our age, and old veterans may be hardened enough to deal with the frustrations of different machines and different file formats. For the neophyte, however, with the introduction of *Excel* for the PC, things are made much easier. □

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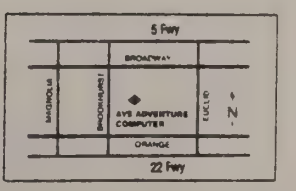

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Learning To (Hyper)Talk

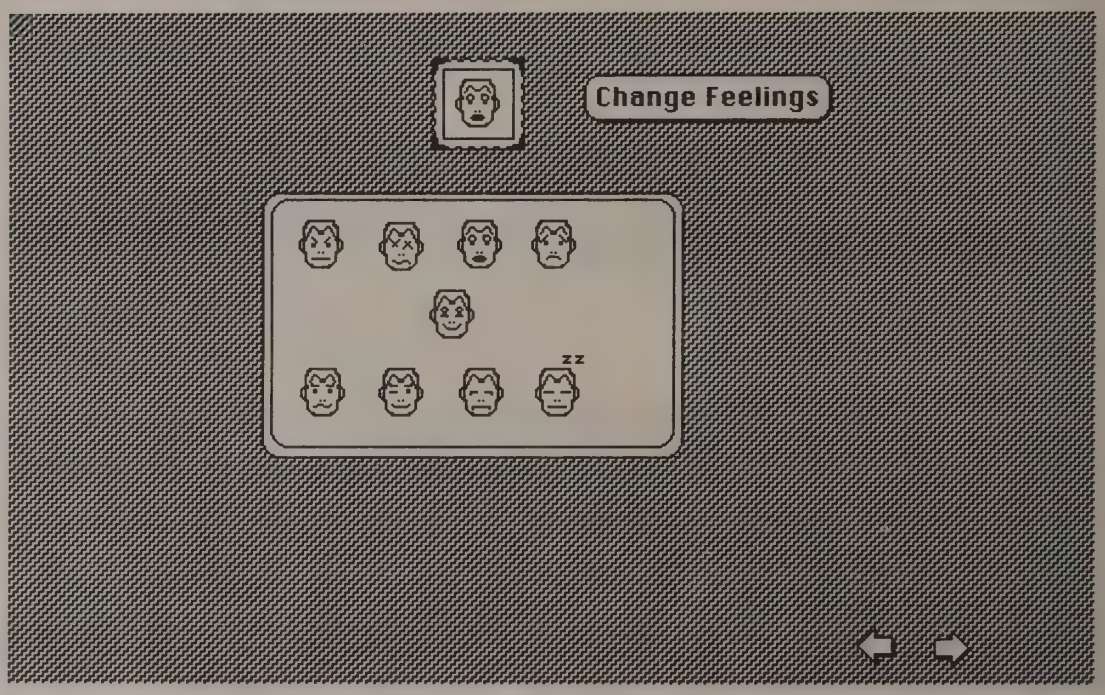
By Birrell Walsh

If you are just a tiny bit intimidated by HyperTalk (*HyperCard*'s programming language), then you owe it to yourself to meet Dan Shafer.

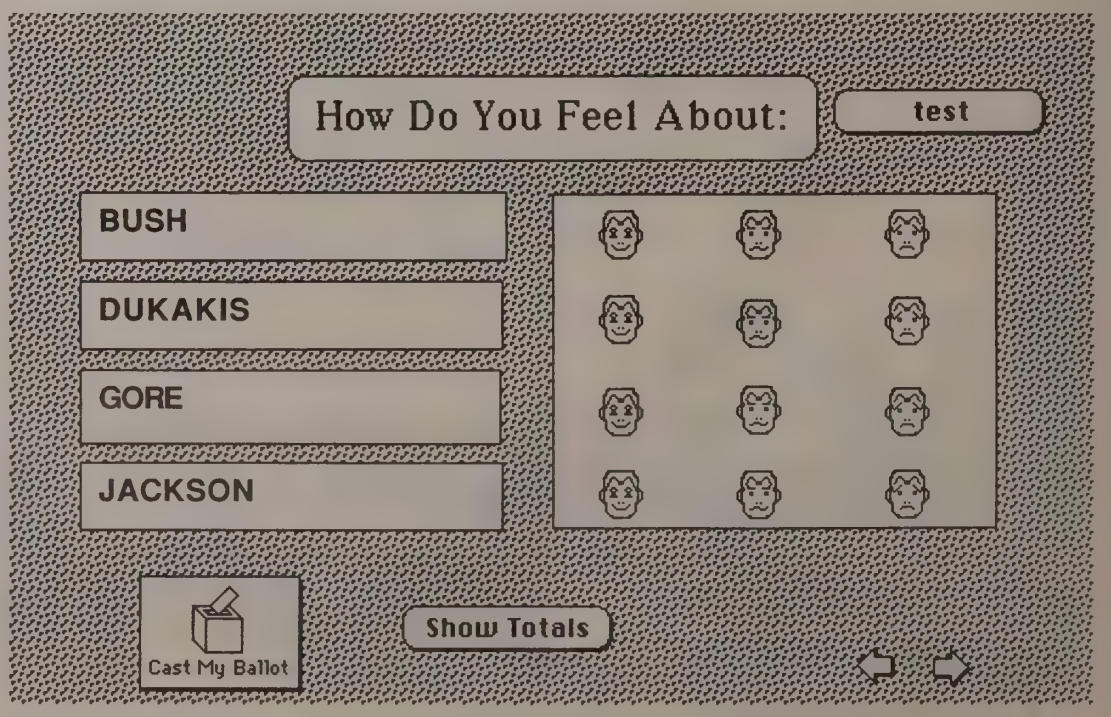
Dan is the author of *HyperTalk Programming* from Hayden Books, a hefty book about the language we all received with *HyperCard*. Because Dan is an approachable writer, even a gentle writer; you learn a great deal from his book with no effort. He explains what object-oriented programming languages are, and tells us why *HyperCard* is and is not object-oriented. That alone is worth the price of admission.

Shafer's products are designed for use. There is an excellent index in his book. He also offers (for $20 more) a disk full of useful programs for the programmer. A number of these are public domain or shareware programs, but the disk is worth getting if you plan to do any work with HyperTalk. It has two stacks that Shafer has written. "HyperQuiz" assists teachers in designing custom quizzes for their students. A second stack is a pre-commerical version of "ScriptExpert," which permits "Semi-Automatic Programming." Each button in the stack writes part of your script. The disk also includes Steve Maller's invaluable stack for resource-copying without ResEdit. Do Not Miss! (*HyperTalk Programming*, $24.95 at your bookstore, or call Hayden Books at 800/428-7267. You can order the resource disk ($20) from Dan Shafer, 277 Hillview Avenue, Redwood City CA 94062 415/361-8562.)

By switching among three forms, we got a candle whose flame flickered in an invisible wind. All the action took place within one card, the memory overhead was minimal, and the flickering was reasonably rapid.



A palette of facial expressions can be created for use in other stacks.



Face icons can be used as buttons in a simple polling application.

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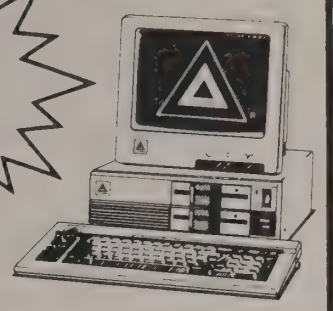

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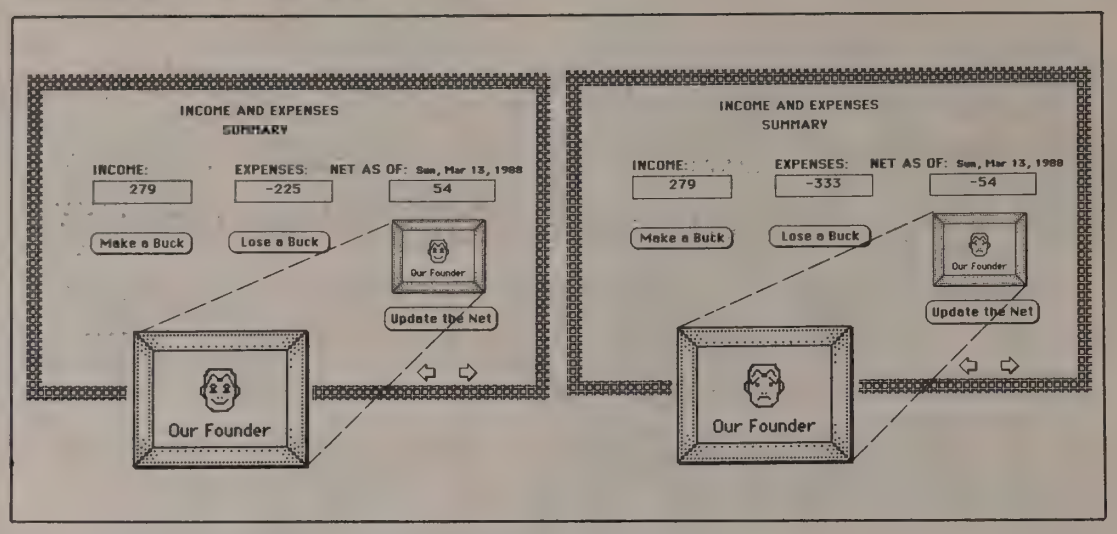


Our Founder's face changes to reflect changes in the bottom line.

Small Moving Critters

Emboldened by Shafer's book and disk, we set out to do some animation in *HyperCard*. It is not difficult to make an animation in which one card succeeds another. These animations are like those risque flip-books which titillated youth in the early part of this century. One complete page is rapidly replaced by another, and the illusion of movement is a by-product.

But we wanted to have static backgrounds on which things moved without the time and memory overhead of moving from card to card. Animation all within one card — is it possible for *HyperCard*?

Buttons are very familiar if you ever owned a Commodore 64. Do not tell John Dvorak we mentioned Commodore computers — he thinks Commodore-owning writers are flatworms. But if you have ever had a C-64 you will recognize in a button what Commodore users call a "sprite." A sprite is an object that has a location, a shape, and a set of built-in routines that will move it, hide it, change its shape and alter its foreground/background-itude. A sprite is to an animator as a familiar is to a witch.

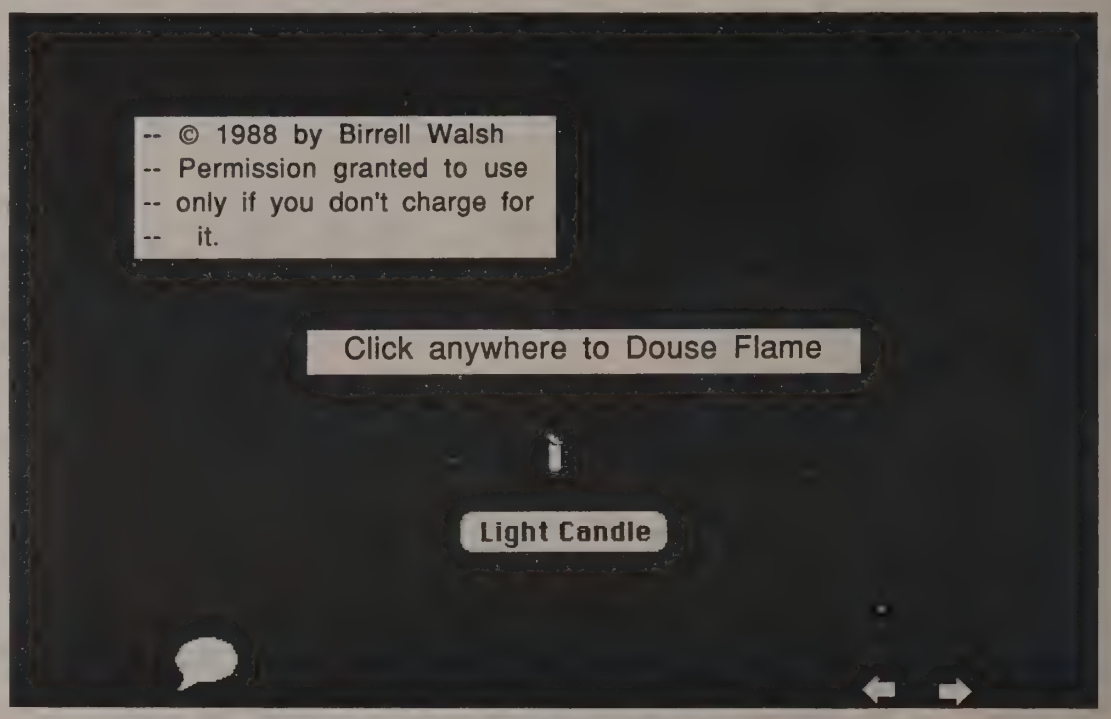
HyperCard buttons have all these characteristics. You can set their location with the "set location" command. You can change their shape with a "set icon" command. You can toss the button all over the card and make it appear and disappear with glee. Despite the default "On mouseUp..." script you find in its script window, you do not need to make a button responsive to being pushed. It can be just an object that you move around the screen to show its tricks — an animator's assistant.

We designed a set of candles to use on one of our cards. Each was different only in the shape of its flame. If we could get them to supplant each other quickly, we would have a candle whose flame flickered in the wind.

The following script did the trick:

```
on ignite
  repeat until the mouseclick
    get random of 3
    if it is one then
      set the icon of card button candle to 22249
    end if
    if it is two then
      set the icon of card button candle to 8306
    end if
    if it is three then
      set the icon of card button candle to 8306
      set the icon of card button candle to 13000
    end if
  end repeat
  set the icon of card button "Candle" to 7935
end ignite
```

The three icon shapes are 22249, 8306, and 13000. By switching among those forms, we got a candle whose flame flickered in an invisible wind. All the action took place within one card, the memory overhead was minimal, and the flickering was reasonably rapid. All that we need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Click anywhere to Douse Flame
Light Candle

Using a simple script, the candle can be made to flicker in an imaginary draft.

do is to use one command — 'Send ignite to card button "Candle"'.

To make the flickering more rapid, we can reduce the number of calculations:

```
on ignite
  put 22249 & return & 8306 & return & 13000
into iconTable
  repeat until the mouseclick
    set the icon of card button "Candle" to any
line of iconTable
  end repeat
end ignite
```

Now *HyperCard* will choose a line at random from a variable ("iconTable") which you have created in memory. The process is faster and cleaner. There are fewer calculations on each pass, and the flame flickers more rapidly. It's your choice as the programmer — you may prefer the delay. But generally in *HyperCard*, programs with fewer calculations run more quickly.

Communication Without Words

We designed a set of faces to use as icons for feelings, and set up a small group of cards that use them:

One card allows the user to vote to react to react to current candidates for president. It's reusable — the card fields can be filled with any name. Another application does not use the button for input at all. It reacts to the situation in a field. The "Financial Summary" card has a portrait of the company founder which smiles when the bottom line is positive, and puts on a sad face when the net is negative.

Making Icons

If you're convinced that buttons are for more than pushing, you need an icon building program. The images in this column were made with George Coyne's shareware stack "makeICON." I downloaded it from The WELL (415-332-6106, among other numbers). It is nicely constructed, and with it you can build an icon for any stack.

Downloading The Stack For This Column

If you are a member of The WELL (and if not, why not?) you can download this stack and many other resources. Visit the HyperCard conference, and run the Library program by typing "lib" and return. From there on, follow the instructions. This column's stack is called "MicroxMay88.sit" The ".sit" means that it is a "StuffIt" archive, compressed to save room and your online time.

You can leave messages, comments, praise and blame for stackware and *HyperCard* on the WELL (415/332-6106; user ID "birrell"), CompuServe (User ID 72466,3567) or by US Mail to:

Birrell Walsh
2440 Sixteenth Street #165
San Francisco CA 94103

Late Bulletin

There is going to be a *HyperCard* Conference & "StackMart" in San Francisco June 11 & 12 at the Civic Auditorium. It looks like an extraordinary opportunity for vendors and users to get to know each other and peddle their wares. Tickets will be $25 for one day, $40 for two in advance, five dollars more per day at the door. Contact: American Expositions, Inc., 110 Greene Street, Suite 703, New York, NY 10012, 212/226-4141.) □

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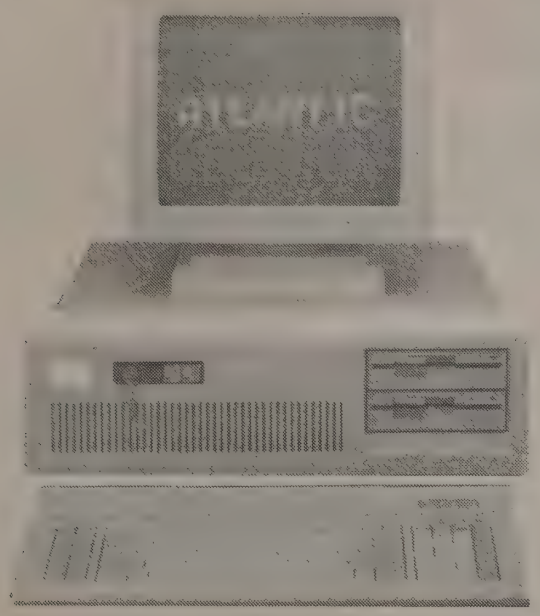

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KS/WB 1.3: The Amiga's New Operating System

By Matthew Leeds

A new version of the Amiga's operating system is in the works, which will include changes to the C directory AmigaDOS commands, improved printing via a new printer.device and printer drivers, a faster file system for hard disks, a recoverable RAM drive that supports rebooting directly from RAM, a new Preferences, double precision IEEE math libraries that support a 68881 co-processor directly, and four Adobe PostScript-compatible screen fonts.

I obtained an advance copy of the KS/WB 1.3 release, a Gamma version, and permission from Commodore Business Machines to write this article. They did require that I preface by stating that the Gamma version may not necessarily contain all changes to the final release, and some of the changes on the Gamma version may not be in the final release, or may be changed in their form or function by the final release.

What's New?

With the disclaimer out of the way, let's start with changes to Kickstart. The only major change is that KS 1.3 now allows for autobooting from a hard disk. For Amiga 1000 owners this means that you will only need to use the Kickstart disk to start your machine if you have an autobooting hard disk (see below). Amiga 500 and 2000 owners will no longer need any floppy disk to start their systems if they have an autobooting hard disk (see below).

There are two gotchas in this. The first is that for a hard disk to offer autobooting, the hard disk controller card must have autobooting ROMs onboard. Since all current hard disk controllers were built prior to CBM's announcement of hard disk autobooting, anyone who currently owns a hard disk is out of luck. There does not appear to be any way to retrofit this capability. The first hard disk controllers that will come to market with this capability will be from CBM, the 2090A, and from Microbotics.

The second gotcha is that since autobooting requires Kickstart 1.3 in ROM on Amiga 500s and 2000s, you will need new Kickstart ROMs to obtain this capability. My sources inside Commodore indicate that by the time you read this, all new Amiga 500s and 2000s will ship with Kickstart 1.3 ROMs. However, no release date has been given for current owners to obtain the new ROMs, and given the shortage of repair parts many service sites have experienced, it seems that there may be a long wait to upgrade your machine.

For a hard disk to offer autobooting, the hard disk controller card must have autobooting ROMs onboard. Since all current hard disk controllers were built prior to CBM's announcement of hard disk autobooting, anyone who currently owns a hard disk is out of luck.

Changes In AmigaDOS

AmigaDOS has been dramatically reworked. Although the ARP project commands have not been adopted, as many had hoped, there are significant changes and enhancements.

In more or less alphabetical order:

Addbuffers now speeds up hard disk access dramatically when using the Fast File system.

Assign now correctly handles device names with more than three characters. It will also let you search the assign list for a specific name.

AUX-handler is a new AmigaDOS handler. It provides unbuffered communication over the serial port.

Avail, a new command, returns a summary of the system RAM, separated into FAST and CHIP categories.

CLI has been changed. It now checks for the existence of a script file called CLI-Startup in the S directory and executes the commands it contains (See **Shell**). It also accepts tooltype flags to control the size and placement of the window it opens and the stack setting.

Clock now accepts command line arguments to control its type, and an option to open it as a digital clock embedded in the Workbench title bar.

Clockptr, a new command, turns the Workbench pointer into a digital clock.

CMD, a new command, lets you redirect output going to the serial or parallel port to a file.

Copy has been enhanced to allow you to preserve the date/time stamp, the protection bits, and any attached filenote. You can also specify the size of the buffer used during the copy process. Copy will now create a new directory if the specified destination directory does not exist. You can also use a set of double quotes to specify the current directory as the destination.

Date now allows a leading 0 or single digit in the date specification.

Delete has been changed to continue if you have specified multiple deletes and one fails.

Dir has been enhanced by the addition of mnemonic equivalents for the A, I, and D flags. During the I option you can now execute AmigaDOS commands.

Diskdoctor has been improved. It now checks to see if sufficient free memory exists for it to execute, and other minor improvements have been added. It's still better than nothing, but not as good as backup copies.

Echo now has a flag that eliminates the output of a new line after printing a string.

EndSkip solves the problem of a missing NAME while using the SKIP command in script files.

ENV will be a new handler sometime in the future. It will be use to store environmental variables. Since it has not yet been implemented, the 1.3 startup-sequence creates an ENV directory in RAM (see **GetENV** and **SetENV** below).

Execute will now use the T: logical device if it exists (also see **Protect**).

FF (FastFonts) is a program written by Charlie Heath that speeds up text on the Amiga.

FixFonts corrects the .font files in the FONTS directory when fonts have been added or deleted from font sub-directories.

Format has two new options. Quick will reformat a previously formatted disk by rewriting the root block and track, the boot block, and bitmap blocks. This is much faster than formatting the entire disk. FFS will format a disk under the FastFileSystem, used for hard disks.

GetENV will get the value of an environment variable.

Info has been changed to handle longer volume names and a flag to get info on a single device or volume has been added. Using Info from Workbench now supports the Archive, Read, Write, and Delete protection bits, accurately reports the number of bytes per block (see FastFileSystem), and works on icons that do not have files attached to them.

InitPrinter forces the printer.device to read from Preferences the setting you have selected.

Install has protection checks against viruses built in now. You can check a disk for a valid

Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software.

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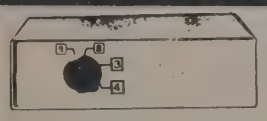

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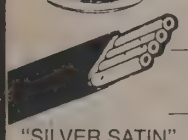

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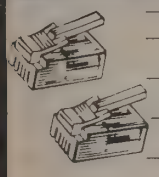

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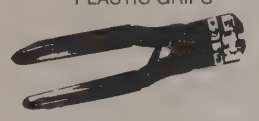

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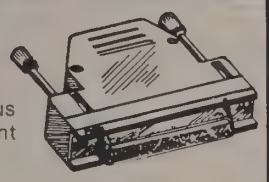

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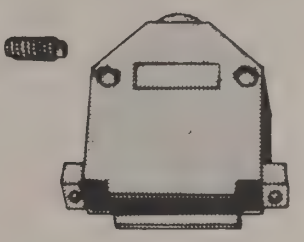

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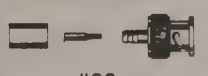

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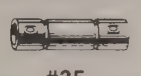

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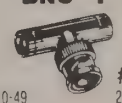

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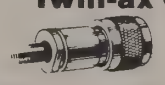

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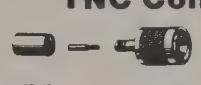

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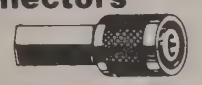

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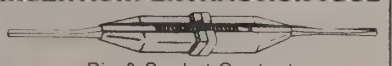

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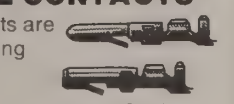

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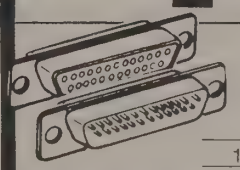

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DB-15S Socket	.97	.77	.60	.55	.50
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DB-25S Socket	.97	.77	.60	.55	44

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boot block, and Install now clears memory used for creating a boot block. You can also make a disk a valid DOS disk without making it bootable.

List now displays the new protection bits (see **Protect**). It also handles wildcards, and can display file sizes in blocks as well as bytes.

Lock sets the write protect status of a hard disk drive or partition mounted using the FastFileSystem. It contains a password option.

More is a utility for displaying ASCII files from either the CLI or Workbench.

Mount has not been changed, but the keywords used in the Mountlist have been enhanced. Most of the changes are in support of the FastFileSystem.

NewCLI now looks for the CLI-startup file in the S directory.

NEWCON-handler is a new handler that acts as a replacement for the CON: handler. It adds command line editing and a history buffer to CLI or SHELL windows that call it (see **Shell**).

NewShell starts up a new Shell (see **Shell-Seg**).

PIPE-handler is a new handler that creates an interprocess communication channel. It was written by Matt Dillon. It allows communication between programs by acting as an I/O option for loads and saves of files. This saves the intermediate step of saving to disk or RAM.

Prompt can now print the current directory as well as the task number.

Protect now addresses the new protection bits: (H)idden, (S)cript, (P)ure, and (A)rchive. When the Script bit is set on a text file it can be Executed by calling it directly. The Pure bit allows commands to be made Resident (see below). The Archive bit is used during backup and restore operations, and the Hidden bit is used to hide files.

AmigaDOS has been dramatically reworked. Although the ARP project commands have not been adopted, as many had hoped, there are significant changes and enhancements.

RAMDRIVE.device is a recoverable RAM disk similar to VD0: from ASDG. Under Kickstart 1.3 it can be used to reboot the system without using a Workbench disk.

RAM-handler has been changed to eliminate several bugs. You can now call it under the name "RAM Disk"; it no longer allows two files with the same name, you can now rename it from Workbench, and it correctly handles date/time stamps.

Resident is a new command used to load commands without executing them, then execute them directly. Only commands with their Pure bit can be made Resident, and not all commands can be made Resident. Commands must be reentrant and re-executable. Commands can be given new names when they are Residented.

Run can now be used to start background processes that allow the closing of the CLI the process was started from.

SetAlert fixes the Alert bug, the DeleteLayers bug, and the math exception vectors.

SetDate can now use the current date/time as a default to reset the date/time stamp on a file.

SetENV is used to set or remove the value of an environment variable.

Shell is called from the Workbench to invoke a CLI window that uses the NEWCON-handler.

Shell-Seg is not exactly a handler although it sits in the L directory. It is made Resident during startup, and then called whenever a new CLI is started. It allows the use of Resident commands, alias names for commands (e.g. XCOPY for the COPY command with the date/time, protection, and filenote preserved, without having to add those flags), uses the new capabilities of the Prompt command, and supports the Script bit on text files.

SPEAK-handler is a new handler that uses the narrator.device and the translator.library. It can be used by other programs or processes to provide spoken output.

Status now supports negative priorities and allows a flag to search for a specific command.

Type now checks to see if a destination file exists and lets you know if it does.

Version is a new command that supplies the version and revision number of a library, device, or Workbench disk.

Xicon is a version of the program written by Pete Goodeve. It lets you execute script files from the Workbench.

Next month I'll continue with a look at the FastFileSystem, the new printing capabilities, new Preferences, the new math libraries, the inclusion of Adobe fonts, and information on support for the new A2024 high resolution monitor. —□

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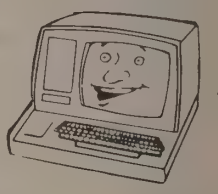

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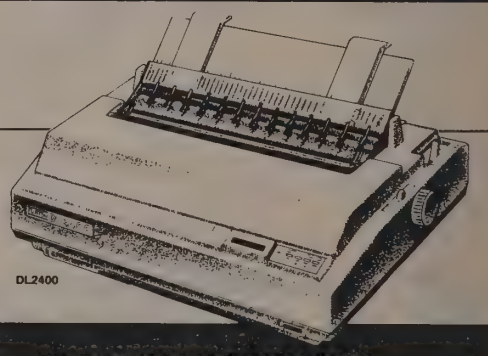

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Atari Sues Micron

By David Hawkins

What does the lawsuit mean? How does it affect you? And how does it affect US computer manufacturers?

Background

A few years ago, US chip manufacturers, including Micron, complained that Japanese chip makers were "dumping" chips in the US. The US companies said that the Japanese were selling the chips at an artificially low price to drive the US companies out of the market. In response to this lobbying, the Japanese companies agreed to restrict sales of chips to the US. They entered into a "voluntary" agreement with the Department of Commerce starting August 1, 1986 and running for five years. (If they hadn't signed the "voluntary" agreement, the US Congress probably would have restricted chip sales to the US.)

The sales restriction has hurt the companies that need the chips. You can buy any quantity you want — if you are assembling the computer in Japan. Otherwise you really have to scramble to get chips. (It's also created a smuggler's market as people sneak chips through US Customs.)

Right now the loss of the chips that would have come from the Micron contract is affecting production of the Mega STs and the Atari laser printers.

This has left US manufacturers having to rely on US chip makers. Large companies, like IBM, have their own chip sources. Smaller companies, like Apple and Atari, try to get as many chips as they can from Japan and then buy the rest in the US. Apple and other companies keep a team in Japan to make sure that they get their maximum allotment at all times.

Micron And Atari

Atari had been buying chips from Micron, an Idaho based company, and were paying $1.95 per chip for 256K DRAMs. Recently Joseph Parkinson, the president of Micron, visited Atari and a deal was made for Atari to buy more chips at $3.75 each, almost double the price they had been paying. (As a point of reference, the chips cost $1.35 to manufacture.)

Parkinson returned to Idaho. Then Micron called Atari to say that no chips were for sale. Later Micron offered to sell the chips for $6.00 each. At this point Atari filed the lawsuit.

The Lawsuit

First, Atari is suing Micron for breach of contract. Atari says that Micron is failing to deliver chips at the agreed price of $3.75 each. Atari is asking to be compensated for the cost of buying three million chips at a higher price than $3.75 per chip.

Second, Atari is charging Micron with "bad faith denial of existence of contract." The damages for this would be determined later and would be both compensatory and punitive.

Third, Atari says that Micron is in violation of the Sherman Anti-Trust Act and is operating as a monopoly. The damages for this violation would be determined later.

Fourth, Atari claims that Micron is engaging in unlawful price discrimination, which would be a violation of the Robinson-Patman Act. Damages for this would be established at the trial.

What Does This Mean?

Atari and other computer manufacturers have to have a good supply of DRAM chips in order to produce computers. More and more computers are being sold with greater memory, which often relies on the 256K DRAM. Right now the loss of the chips that would have come from the Micron contract is affecting production of the Mega STs and the Atari laser printers. Obviously this benefits companies like IBM which make their own chips.

Also, higher production costs due to inflated chip prices means that the final product will sell for more.

Long Term?

I would hope that the Department of Commerce would see that the agreement with Japan is benefiting US chip makers while it hurts US chip users. It's not hurting the Japanese chip manufacturers, since they can still sell every chip they make.

Meanwhile, Intel has announced an agreement with Micron to distribute chips for Micron. Micron has said that it will need to start a third production facility to meet demand.

David Hawkins is the host of the Atari conference on The WELL (415/332-6106); send email to dhawk. *He can also be reached as David Hawkins on the Guild (415/771-7062). He has one of the first Atari ST 1040s sold in San Francisco, both monitors, an Okimate 20 color printer, and disks all over the room.*

Other News: WordPerfect For The ST

There has a been a rumor that the WordPerfect Corporation would pull *WordPerfect* from the Atari market because of the circulation of pirated copies. I've read a couple of releases from WordPerfect saying this is not true. They are concerned about piracy in the market, but the problem is not causing them to withdraw the product at this time.

If you need a full featured word processor that you can use on several different machines, get WordPerfect. The company is continuing to improve what is already a good product.

If you need a full featured word processor that you can use on several different machines, get *WordPerfect*. The company is continuing to improve what is already a good product. If you purchased the very first version (which did have a few bugs), they will provide a free upgrade. By the way, the manual is very good.

Piracy isn't worth it. All you need to do is grab one program with a virus to lose a lot. There is at least one ST virus in circulation. Play it safe and buy clean copies of good software.

Dungeon Master — Bug

OK, *Dungeon Master* is a fantastic program. But version 1.0 has a couple of bugs that can pop up at the very end of the game, and there are a couple of things that will cause the game to freeze. I completed the game, but I knew what to watch for. Telling the conclusion would spoil the climax, so instead, send off to FTL and ask for version 1.2. They'll provide a free upgrade if you send them a self-addressed, stamped envelope that's large enough to hold a 3-1/2" disk. Again, *Dungeon Master* is a fantastic game. A hint book will be released later this year. There are a couple of hints files and maps available on local bulletin boards. □

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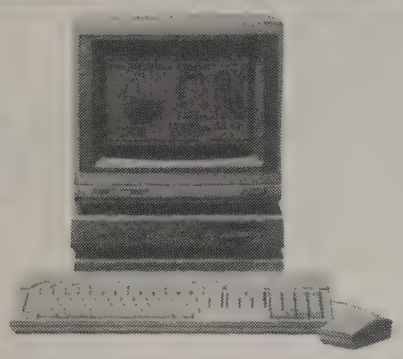

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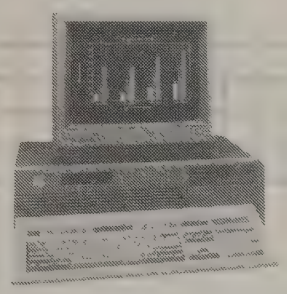

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APPLE II

Brøderbund Shows Off, Claris Shows Up And The Netman Cometh

By Mike Markowitz

"Instructional technology" in the American classroom is often still limited to the Neolithic age of chalk-on-slate. Indeed, the Stone Age instructor probably had more mineral pigments and applied them to the cave wall more skillfully, being less constrained by clocks and lesson plans. Until quite recently, "advanced instructional technology" meant overhead projectors and 35 mm slides.

Then we got computers...

The great limitation of the computer as a medium of classroom instruction is the small number of students who can view the screen at one time. For larger students, of an age that hates being jostled shoulder-to-shoulder, the number shrinks toward "one." Large-screen monitors help a little, but they can be expensive, and hard to adjust. The new liquid-crystal screens that echo a computer display on the stage of an overhead projector could be a real breakthrough for classroom computer-aided instruction.

Meanwhile, check out *Show Off*, from Brøderbund, a software tool for creating and presenting "slide shows" with the Apple IIGS. For about the same cost as printing a few rolls of 35 mm color slides, you get the capability to quickly produce, reproduce, and display an unlimited number of text-and-graphic frames. A floppy disk is a lot more compact than a slide carousel, and your frames will never be upside-down or out of sequence.

Designed in France by Pierre Berloquin and Denis Freidman, and programmed for the IIGS by Serge Hervy, *Show Off* is an object-oriented graphics package, with strong editing, sequencing and presentation features. It uses the 16-color, 320 x 200 graphics mode, without any option to edit the color palette. For a simple program, this is a good design choice, since it prevents the user from messing up the colors.

There are quite a few different kinds of objects you can put into a frame. "Icons" are small colored graphics. The program disk includes over 380 of them, organized in a thematic library. "Stickers" are larger (*Print Shop* sized) graphics that can be imported from any *Print Shop IIGS*-compatible collection. There are 144 cute borders (with tiny thematic icons at each corner).

You can create a self-running "slide show" disk by copying certain files from a demo disk included in the package. The manual could explain this a little more clearly, and it should be printed in a larger typeface. A Teacher's Guide packed with ideas for using *Show Off* is available to schools. Apple considers "desktop presentations" to be one of the most important growth areas for personal computers, but until now, this area has been entirely a Macintosh show. *Show Off* brings this capability to the Apple IIGS. (Brøderbund, 17 Paul Drive, San Rafael, CA 94903-2101.)

Mike Markowitz is a computer engineer for a large Southern California aerospace firm. He has been writing about Apple II hardware and software since 1984. Copyright © 1988 by Mike Markowitz.

AppleWorks

Claris, the company Apple begat in order to get itself out of the software business, has released its repackaged version of *AppleWorks*, version 2.0, the most popular integrated software package (word processor, spreadsheet, database) in the world. Except for the logo on the label, this is exactly the same product Apple had been selling for over 16 months. Claris has not only started to advertise the product (something Apple never did), it has actually begun to provide technical support to registered owners (also something Apple never did). This is the best news AppleWorkers have gotten in a long time. The $249 package includes a complete set of 5.25" and 3.5" disks, a reference manual and a tutorial. Remarkably enough, the program still uses ProDOS version 1.1.1 (vintage 1984), now patched to recognize the clock in the IIGS. The rest of the Apple II world is using ProDOS version 1.4, which seems to be bug-free.

If you haven't upgraded to version 2.0, you should know that it includes a nifty mail-merge function, improved memory management, and some 16-bit code optimized to run on the IIGS. If you have an earlier version of *AppleWorks*, the upgrade costs $75 from Claris until September 30, 1988. Call (800) 544-8554 for the details.

Almost any imaginable enhancement to *AppleWorks* is already available from companies like PinPoint and Beagle Brothers, but I would still like to see on-screen underlining, boldface and italics some day. I also wish the printer driver (SEG.PR) would auto-load itself into RAM like the rest of the code, so the program doesn't have to go back and spin the disk every time you go to print something. There has been some wishful thinking about a mouse-driven, icon-based *AppleWorks* for the IIGS, but given the sluggish performance of existing word processors, databases and spreadsheets designed for that machine, it would not be worth the effort. At least not until we have a much speedier IIGS.

The real surprise from Claris was the announcement (on March 1) of a *network* version of *AppleWorks*, to be released concurrently with the new AppleShare file server software. This will make it possible for a Macintosh to operate as the file server for an AppleTalk network of IIe and IIGS "workstations."

Caught In The Net

Apple is promoting the network idea for schools as a way for many student computers to share expensive peripherals like laser printers, hard disks and the new Apple CD-ROM drive. Apple's K-12 educational network strategy is built around six new products (announced March 1, but available by Summer).

AppleShare File Server version 2.0 makes it possible to store and launch specially-programmed ("AppleShare-aware") ProDOS applications from the hard disk of a Mac Plus, Mac SE or Mac II. The file server can support Macintosh, MS-DOS and ProDOS operating systems *concurrently*, making it possible to share information between incompatible systems.

AppleShare Print Server allows up to five LaserWriter or ImageWriter printers on the network to be spooled simultaneously.

Apple II Workstation Card gives an enhanced Apple IIe access to the network, and makes it possible to run programs from the file server without a local disk drive. "Diskless startup" reduces the need to control, handle, back-up, and worry about floppy disks for each computer. With 16K of RAM and 64K of ROM, the board has both an AppleTalk connector and a Super Serial port.

AppleShare IIGS Workstation Software. Since the AppleTalk firmware is built into the IIGS, the machine needs only this program to operate as part of the network.

Inter.Poll is a network administrator's utility that lists active network devices, monitors the network and locates cabling breaks.

About a dozen educational software vendors have announced Apple II network applications, including completely new programs and network versions of old classics.

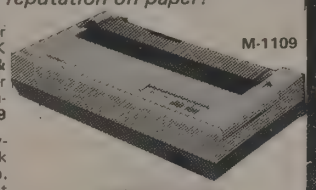
I don't like networks, because they symbolize centralized, authoritarian control, the antithesis of the personal empowerment represented by individual "stand-alone" computers. When you gain that access to the laser printer, the big database, the electronic mail and all the other network goodies, you are giving up a certain measure of freedom, to run whatever you want, when you want. When the network can lock you out, override you and require a password just to log on, then it's not your system anymore. I think kids are pretty sensitive to these issues.

It's inevitable, of course. If kids are going to grow up to be docile wage-slaves, chained to IBM workstations, it's grimly ironic that they should be schooled at Apple workstations. Behold the Trojan File Server, bearing gifts. Nineteen eighty-four arrives, four years late.

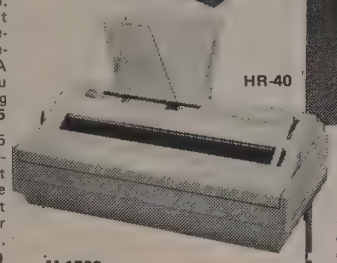
Every year for the past five or so has been hailed as "the year of the network" in personal computing, but it looks as though Apple is getting serious this time. Before school principals and administrators jump on the network bandwagon, however, they should give some thought to the costs and benefits. A fully configured file-server is a big-ticket item, and AppleTalk cabling is priced such that many believe it is spun in Heaven from the golden hair of angels. Floppy disks may be vulnerable to damage or abuse in young hands, but network cabling is likely to prove even more vulnerable under the onslaught of young feet. The duty of network administrator is a thankless task, that likely as not will land on some overworked teacher, who will have that much less time to spend with students. For the cost of a network, a school could easily put a lot more standalone computers on a lot more desks. (Claris, Inc., 440 Clyde Avenue, Mountain View, CA 94043, (415) 960-1500. Apple Computer, Inc., 20525 Mariani Avenue, Cupertino, CA 95014, (408) 996-1010.) □

brother Printer Sale!

Brother printers are known for their reliability, performance and versatility. Presented here are a few state-of-the-art printers for your word processing and data processing needs. Let Brother put your reputation on paper!

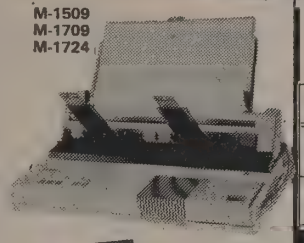


M-1109 — 100cps, 80 column printer with near letter quality mode. 2K buffer. Compact (13"x2.8"x7.6") & lightweight(7.8 lb.) design. Ideal for use with portable or lap-top computers. Complete with tractor . . .$219



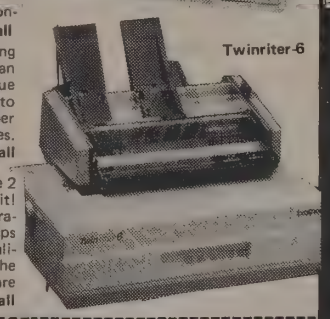
NEW! HR-40 — A high speed daisywheel printer that make you look good on paper. 40cps, 136 column. Built in push-type tractor would not waste the first form. Built-in single-sheet feeder makes it the best price-performance daisywheel printer. A unique paper parking feature lets you insert single sheet without removing continuous form $625

M-1509 — Our best seller! 180cps (45 cps NLQ), 136 column. Unique side-mounted cable connection would not tangle form paper and push-type tractor would not waste the first form. Single push button for near letter quality printing. 3K buffer. IBM & Epson compatible. . . .$359



M-1709 — It has features similar to 1509 but high speed 240cps (50cps NLQ), 136 column, large 24K buffer. Unique push-type tractor and paper parking features. Heavy duty print-head for business use. Quiet . . $459

NEW! M-1724 — A truly versatile text and graphic printer with its 24-pin head and 216cps output (72cps NLQ), 136 column. Advanced paper parking feature lets you switch to single sheet without removing the continuous forms. . . . . $Call



M-2518 (New!) — A data processing work horse. 18-in, 360cps, can handle 6-part form with its unique straight-thru paper path, plus quto paper thickness adjustment, paper express and paper parking features. Optional color printing. . . . . $Call

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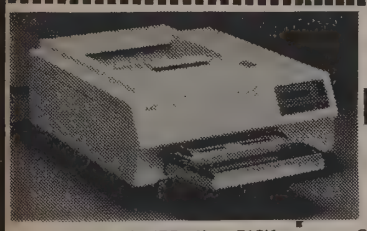

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H-P LASERJET VER. II — 512K memory, 8 page/minute, 300x300 dot resolution, 6 resident fonts $1,649
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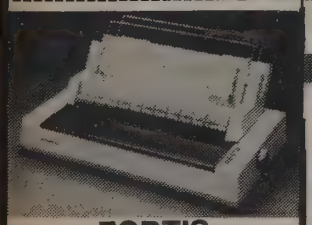

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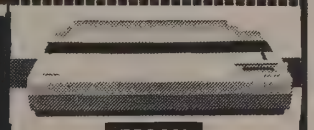
Fortis DX-21 — 22cps Daisywheel printer, 1 year warranty . . .$349
Fortis DX-41 — 40cps Daisywheel printer, 1 year warranty . . .$589
Fortis DM-1310 Printer, 130cps, 80 column. $225
Fortis DM-2010T Printer, 200cps, 80 column. $325
Fortis DM-2015T Printer, 200cps, 132 column $399



EPSON

LX-800 — 80 col. w/tractor . . $245
FX-86E — 240cps, 80 col . . . $369
FX-286E — 240cps, 132 col . . $479
LQ-500 — 24-pin, 80 col $359
LQ-850 — 24-in, 80 col. $569
LQ-1050 — 24-pin, 132 col . . $769
LQ-2500 — 24-pin, 324cp . . . $945

CITIZEN

Citizen 180D — 150cps, 80 col .$199
Citizen MSP15, 160cps,132 col.$335
Citizen MSP25, 200cps, 132 col.$399
Citizen MSP55, 250cps, 132 col.$475
Citizen Premium 35 daisywheel .$479
Citizen Tribute 224, 24-pin . . .$599

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NEC 2200, 180cps, 80 col $395

OKIDATA

192+ — 200cps, 80 col $369
193+ — 200cps, 132 col $499
293E — 132 col $589
Molule for 293E (paralle/serial) . $99

STAR GEMINI

SB-10, 24-pin, 80 column $375

TOSHIBA

Toshiba P321-SL— 24-pin . . . $535
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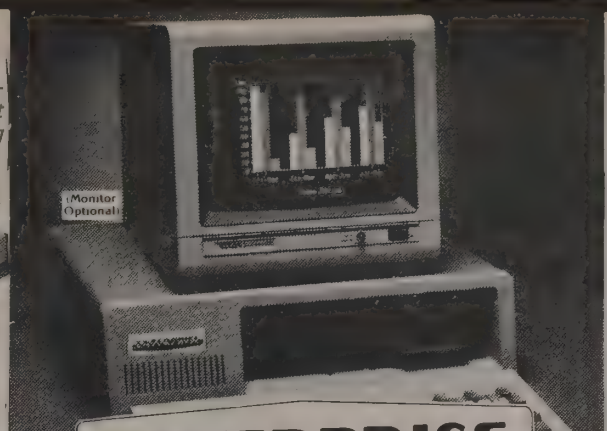
PANASONIC

Panasonic KX-P1080i — 80 col. $225
Panasonic KX-P1091i — 192cps.$269
Panasonic KX-P1092i — 240cps.$365
Panasonic KX-P3151 — 22cps . .$389



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	640K memory 1-360K drive	2-360K and 20-MB Drives	2-360K and 30-MB drives	2-360K and 40-MB drives
8MHz	$639	$979	$1009	$1179
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ENTERPRISE 286

- Fully IBM AT compatible
- 512K memory — expandable to 1-MB
- Controller for floppy & hard disks
- 1.2-MB floppy drive
- 101-key enhanced keyboard w/LED's
- Keyboard speed selectable
- 200-watt power supply
- 8 expansion slots
- Clock/calendar with battery
- Full 1-year warranty

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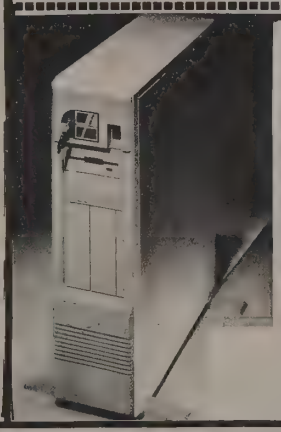
Seagate 225, 20-MB w/W.D. controller. $269
Seagate 238, 30-MB w/W.D. controller. $329
Seagate 251, 40-MB hard disk only $359
Micropolis 72-MB hard disk, 27 ms . . *Special Sale* $699



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The finest tower case you can buy! Will accommodate PC/XT, AT, mini AT and 386 motherboards. Easy to open with only two screws.

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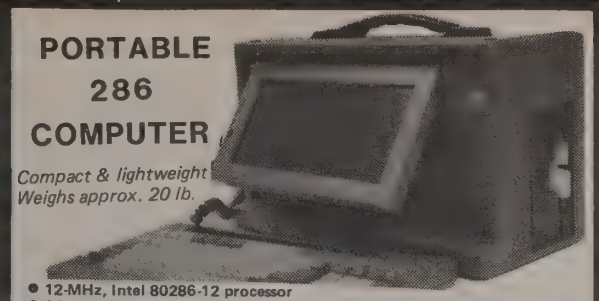

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- Full featured keyboard w/12 function keys
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with 20-MB hard disk . . $1,795
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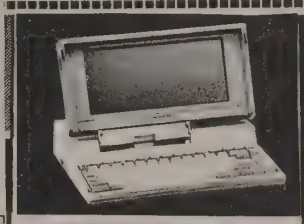

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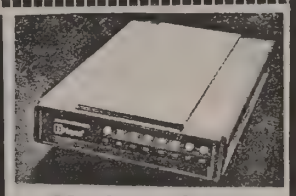
Toshiba T5100, 40-MB $4895
NEC Multispeed EL 2 drives. $1495
NEC Multispeed EL, 1dr. 20MB $2295



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Intel Above board. $379
Genoa Level 7 EGA/VGA card $199
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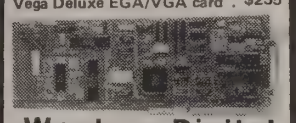

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For AT compatibles. Controls both hard and floppy drives. **$115**

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Samsung 14" EGA Color. . . . $385
Sony FV1311 RGB & TV $469
Sony SPD1302 Multisyn Color . $599
Sony SPD1303 Multisyn Color . $555
Taxan 765 14" EGA Color . . . $385
Taxan 770 Multisyn Color . . . $499
TVM MD-7F 14" EGA Color . . $395
TVM MD-11 14" Multisyn color $495
TVM MM-11 14" Multisyn B/W. $195
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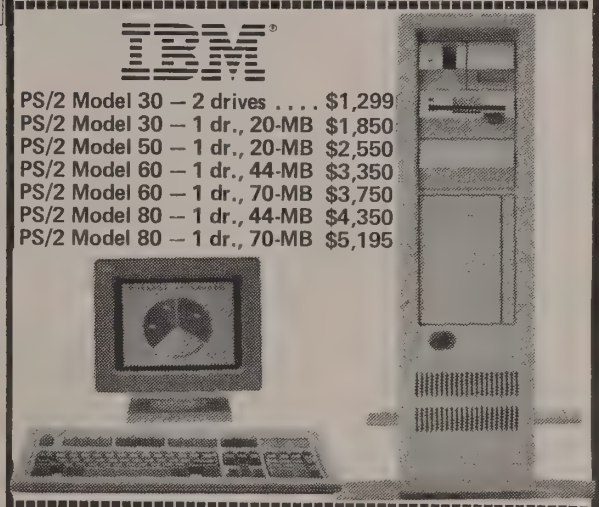
PS/2 Model 60 — 1 dr., 44-MB $3,350
PS/2 Model 60 — 1 dr., 70-MB $3,750
PS/2 Model 80 — 1 dr., 44-MB $4,350
PS/2 Model 80 — 1 dr., 70-MB $5,195



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Compaq portable 2, Mod. 4 .$2,575
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Despro 286, 12-MHz,, 1 dr. $1,725
Despro 286, 12-MHz, 40-MB$2,950
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Horror Stories

Don't Forget, Back It Up!

By Robert D. Athey Jr.

We had a little problem turn up at the user group last month. A woman who works at a publishing house raised a question that arose from a crisis with the Kaypro 10 on which the office has kept its records for the last four or five years. She herself was not an experienced user, nor were any of the successive temporary keyboardists entrusted with data entry.

The machine in question has a hard disk, on which records have been stored continuously since the company started using the machine. When the disk drive started acting up, they took it to a local computer store; over the next several months, the machine racked up several hefty repair bills with no noticeable improvement in performance. By now the publishing house was getting desperate, because it really needed the data on the disk.

Several suggestions came up to address the immediate problem of recovering the data. There are public domain software programs that can help, but they require some effort and expertise from the user. Outside consultants are a possibility, at rates from $60 to $90 an hour. (If you've got a Macintosh hard disk, the Berkeley Macintosh group has a *free* data recovery service for members.

My suggestion was to call Jon Gordon to see if he could, first, save the data, and, second, save the computer.

Jon Gordon doesn't do so much Kaypro and Morrow work as he did when he was at Berkeley Computer; these days he's better known for his MIDI demonstrations at LaVal's in Berkeley and his Amstrad/Atari work at MicroWorld. He will, however, take on those especially challenging non-routine and different problems with the CP/M computers, Kaypro especially. It doesn't matter what it is, so long as it's unusual.

Suffice it to say there were complications in the problem of the Kaypro 10. Apparently, there are several versions of the machine out there, with many minor variations and upgrades. So the question immediately arose which version of Kaypro 10 the ill-fated publishing house's machine was, and what the chances were that the technician trying to fix the machine had the correct datasheets on repairs for it? No one knows to date, and it's critical, as some ROMs are not like others of later series, and the same with disk controllers.

Jon did succeed in recovering the data and transferring it to another, healthier Kaypro 10 hard disk. The publishing house and Jon estimate that's worth more than $15,000 to the user!

Bob Athey has over 20 years of experience working on computers and runs his own company on chemical consulting and contact research. He can be reached through MicroTimes or at (415) 526-3541. *Copyright © 1988 by Robert D. Athey Jr. All rights reserved.*

So you think you've been operating without backing up your disks for two-plus years and have had no problems, so you won't have any problems in the future. I like your kind of optimism.

What To Expect From Your Repair Shop

In a recent talk to our user group, Jon made some significant points about the mutual obligations of customers and repair shops.

First, the customer must get an estimate of the cost of diagnosis, and of the cost of the repair. This estimate should be in writing, and a copy carried out of the shop for the customer's records when the device is left behind.

Secondly, upon finding that the needed repair is more extensive (read expensive) than the estimate, the repair shop is required by law to notify (usually by phone) the customer, *and get approval.* The approval must be noted in writing on the customer repair order — time, date and change authorized.

Thirdly, the customer has the right to receive all used parts replaced in the course of a repair, packaged and ready to return to the customer on return of the repaired device. If there is disagreement as to the appropriateness of these replacements, it is necessary to have these items to test them for failure.

Fourth, the customer should have assurance not only that a part exchange or adjustment has been made, but also that the performance of the repaired unit has been tested. That noisy disk drive better be noiseless after a few hours of running before I get it back.

But More Important: BACK IT UP

The publishing house's crisis brought up another all-too-frequent problem. In the entire history of the machine's use, the disk's contents had never been backed up. Not only that, the procedure itself had never been explained to any of the machine's operators.

There are several ways to keep your archive (a sort of library of data saved just in case you lose the original set). The simplest is to make floppy disk copies of the files on the hard disk(s) — just as the files are today. In CP/M systems, you can use the "COPY.COM" program, or you can use the "PIP.COM" program, and the data will be copied just as it looks on your screen.

If you use "NEWSWEEP" (NSWEEP or CWEEP214 in MS-DOS), you can tag the files you want on the floppy for backup, and then mass move them with one keystroke. Since I keep things on my RAMdisk on the ON!, and the RAMdisk is divided into user areas just as hard disks are, each user area is assigned as a different class of files. My correspondence is in A6, the book in A4, the spreadsheets in A3, and so on. When I back up the book, I pull out the book floppy disk and move files to it from the RAMdisk using the NEWSWEEP-clone disk manager provided with the ON!

You're not limited to those tools. You can make the archive take up much less space on the floppies than they do on the hard disk, in several ways. One is to make libraries of related files, using the NULU.COM program, or other such programs. This saves a little program file space, and lots of directory space (yes, there's a limit on directory size in CP/M). Another option is to "squeeze" the files you want to save, with a program like "NEWSWEEP." That program has an option that squeezes and mass transfers files simultaneously from the hard disk to your floppy. (Squeezing the files means they take up about 30% less space on your disk — so you can use seven floppies to copy a hard disk instead of 10.) An even better option, if you want to save floppies, is the "KRUNCH" program, as it allows you to save about 50% of the file space (I've heard 70% claimed, but see 50% in my files).

Where do you get these programs? "COPY.COM" and "PIP.COM" came with your operating system disk (though I've seen commercial versions of copying programs that are enhanced--such as the one from Plu*Perfect Software in Idyllwild, CA). The KRUNCH, NEWSWEEP, and NULU are public domain programs I've described in previous columns , but they are available from your local user group disk librarian.

If you aren't a user group member, it's time you were, just so you'd have access to the library. Look up the local user group in the back pages of *MicroTimes*. Certainly FOG, BAKUP and BAMDUA have these programs, and their remote bulletin boards will have them for downloading to your modem, too.

So you think you've been operating without backing up your disks for two-plus years and have had no problems, so you won't have any problems in the future. I like your kind of optimism. You'll learn that it's sometimes misplaced, though. Back 'em up!

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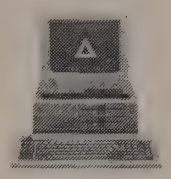

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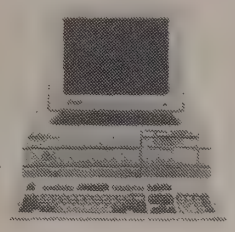

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USER GROUP NETWORK By Mary Eisenhart

We've received quite a few new listings lately, many accompanied by squawks of outrage from those whose listings were dropped when we began our all-new listings in April. "Why did this happen?" they cry.

Well, to briefly recap what we've been saying since late last year, all our old listings, many of which were obsolete, were dropped and February 1 was the deadline for inclusion in the April issue. New listings will be added each month as they arrive, so those who somehow managed to miss previous messages can still send in new updated listings. Please use the form in this issue, or send us a letter, or email us on The WELL. But please remember, the user group listings are not the proper place for *War and Peace*. Please keep your listing to 15 words, or we will edit it to that length. We also welcome additional information about your group or BBS for inclusion in this column, so please let us know what's going on with your group.

Faithful Correspondent **Loyd Cribbs** did. He's from the **San Francisco Personal Computer Users Group**, and he'd like you to know that the special guest at the May meeting will be none other than **Philippe Kahn**, founder and guiding force of Borland International. The meeting's on May 16 at Fort Mason Center (Room 1, Building A). Software sales and SIG meetings start at 7 pm; the meeting begins at 8.

Having been privileged to witness a few of Kahn's memorable appearances, I heartily urge everyone to check this out. You can call Loyd at (415)751-5219 for further information.

Lynzie Flynn of **Lynzie's Motherboard**, which was one of the very first boards listed in these pages and has had a long and distinguished career in the LA area, sends word that she's added some new phone lines. You can now reach the Motherboard 24 hours a day at five local numbers::(213)650-0519 for West Hollywood, (213)659-1982 for West LA, (818)508-6482 and (818)989-3875 in the San Fernando Valley, and, for the 9600-baud-inclined, (213)650-6172. The board offers matching, chat, a large download library, many public boards, email, and offline social events.

Still with us, despite the hiatus in its listing's appearance, is the **Earth-Rite BBS**, (415)651-9496. Sysop **R.E. McCain** says, "While we are perhaps not in the forefront of of those Bay Area BBSes offering gimmicks such as graphics, sound, and color, we offer a solid forum for those interested in New Age, Eastern, and Pagan philosophies and religions. We have never attempted to be a software exchange; we offer food for the mind rather than grist for the hacker."

Earth-Rite operates 24 hours a day at 300/1200 baud, 8-N-1.

On the back of a chartreuse flyer for **Jonathan Richman and the Modern Lovers** comes a listing for the **Planet Zed BBS** at (213)434-2933. Somewhere in all that chartreuse the sysop seems to have omitted his/her name, but the board is a music oriented BBS for all computer types, with IBM compatible downloads. It offers several conferences, including record reviews and coming events. It operates 24 hours a day at 300/1200/2400 baud, 8-N-1.

If you happen to be an owner of **Televideo** or **Timex/Sinclair** equipment, you'll be glad to hear about the **Grey Matter BBS**, which offers support for both product lines. Sysop **Ed Grey** invites your calls at (213)971-6260, 300/1200/2400, 24 hours.

Also on the support front, **Everex Systems Inc.** has creeted its own BBS to help programmers write software to take advantage of its graphics boards. It features updates of drivers, games, source code, and more; it's open to all. **Gary Lorensen** of Everex, who tells us all this, invites you to call the board any time: (415)683-2924, 8-N-1, 300/1200/2400.

The more conversationally-minded might want to call **The Digital Dungeon** in Santa Barbara. Sysops Jerry Ash and Doug Sanders say "This is an open system, designed to be an open forum for topics such as IBM, Macintosh, protocol, current events, the presidential race, Central America, Creative, and more. There are unique downloads, but this is primarily a conversation system." It, too, operates 24 hours a day at (805)683-2436.

Glenn Della-Monica invites users of **DataEase** database software to attend a meeting of the **DataEase Users Group**, which meets every two months on the third Wednesday. The next meeting is May 18 at Turing Auditorium on the Stanford University campus, 1:30 pm. Alternate meetings are held in San Francisco. If you'd like more information, call **Kermit Carter** at (415)945-7817.

AI enthusiasts, **Kent Byron**'s got good news for you. **The Artificial Intelligence Special Interest Group** is a nationally recognized group studying and developing AI and artificial neural networks. Meetings are on the campus of the University of Santa Clara campus (which, as a graduate of that fine establishment, I can commend as a great place, especially in the springtime. . .), usually on second Thursdays in Engineering 101. There's also a newsletter, and if you call Ken at (408)244-8739, he'll pass along any other information you might need.

Joe Mahoney, president of the **Bay Area AT&T PC Users Group**, sends us word that there are now two monthly meetings, one in the North Bay and one in the South Bay. The North Bay group meets on the first Wednesday of the month at alternating sites in Oakland and San Francisco; call Joe at (415)586-8376 for information, or call the Easy Access BBS at (415)829-6027. South Bay AT&T users might prefer the meetings which take place on second Wednesdays at the AT&T Building, 1090 E. Duane in Sunnyvale. Both meetings are at 6:30 pm.

Dr. **C. J. Wallia** of the **Bay Area Desktop Publishing Users' Group** invites you to attend one of the group's meetings, which take place Tuesday evenings from 6 to 8 pm at Norman's Restaurant, 3204 College Ave., Berkeley (corner of College and Alcatraz). For further information call (415)848-8200.

And on that cheerful note, I'll close for another month. Keep that mail coming—send the US variety to User Group Network, 5951 Canning Street, Oakland, CA 94609, and email to **microx** on The WELL, (415) 332-6106.

BULLETIN BOARDS

INTERNATIONAL

FidoNet Argentina (054). (011) 541-22-419. 8-N-1 3 PM-11 AM PST. The 1st fido node in Argentina has over 450 subscribers. Specializes in issues from S.A. PD software library to d-load. Sysop: Pable Kleinman

Cassia Express. (065) 344-9163. 300/1200/2400 24 hrs. Singapore. Sysop: N.M.Rahman

Remote Bulletin Board (Singapore). (065) 445-1646. 9600/2400/1200 24 hrs. 218 MB Online (IBM upload/download). Sysop: Umar A. Rahman

Terrapin Station. (203) 656-0134. Grateful Dead Board. Sysop: Klaus and Gretchen Bender.

209

Bertha Board. (209) 239-9853. 300/1200/2400 8-N-1 24 hrs. MS-DOS, others. Some emphasis on programming. Up- & downloads. Free. Registration required. Sysop: Kenneth Roach

Silicon Realms. (209) 754-5530. 300/(1200 Soon) 9:30AM to 6:30AM.Formerly Motherload 64. Commodore, PET & Plus/4. Programmers board, Continuing & Short Story boards, FRPG. Sysop: Joe Commodore

213

Ashton-Tate Support. (213) 538-6196. Free technical support, answers to questions about Ashton-Tate software products.

Carrier Point Information. (213) 423-4999. 1200/2400 8-N-1 All but 1:30-3:30 PM. TBBS multi-user system. Operating 10 lines, 9 in rotation. All lines support 300/1200/2400 baud rates.

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Information Symposium. (213) 258-5086. 300/1200/2400 8-N-1 24 hrs. Serving the Info. Professional, Tech. Info, M.I.S. Employment. MS-DOS; OS/2; graphics. Password req'd for access is "Micro." Sysop: William Bloomer

Lynzie's Motherboard. (213) 650-0519. 300/1200/2400 8-N-1 24 hrs. Multiinterest. Social events for users. If you're looking for a discriminating BBS, this is the place to be. Sysop: Lynzie Flynn

Oil Patch PC Board. (213) 427-5980. 300/1200 8-N-1 Eves. only. Exclusively C. Libraries; utilities; source code; tutorials. Sysop: RickShoop

Southland News. (213) 402-4079. 24 hrs. An online newsmagazine w/ general news, comments, entertainment, computer news show, club & swap meet listings.

The Great American Audio/Video Board. (213) 469-6542. 300/1200 8-N-1 Eves. Reviews, essays, buyers guide, instruction. Sysop: Keith Bass

Westside. (213) 933-4050. 3/12/2400 8-N-1 24 hrs. 17 lines w/chat, library, matching. Public & E-mail.

Beaver Creek. (213) 437-1410. 8-N-1 All but 4-9 PM. Sysop: John Campbell

Time-X-Change. (213) 329-3922. 300/1200 8-N-1 24 hrs. Timex-Sinclair & CP/M users Free Sysop: Dave Clifford

Electronic Media Network. (216) 241-2612. 1200 8-N-1 23 hrs. Provides link between employers and high-tech and highly skilled professionals.

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408

Bay Area Atari. (408) 249-7722. 300/1200 24 hrs.

Bay Area BBS. (408) 723-7238. 300/1200/2400 Several "live" doors including adult & X-rated. Sysop: Jim Acker

Byte Bandits of America. (408) 374-3974. 300/1200 24 hrs. Free. MS-DOS Sysop: Sam C. Brown

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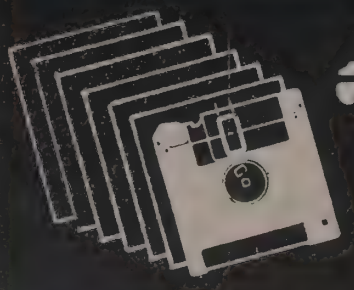

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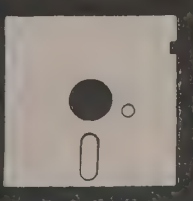

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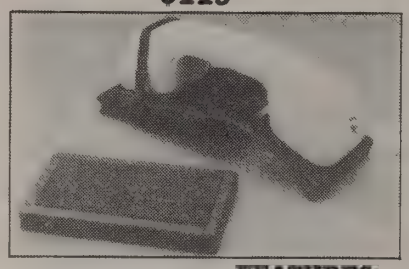

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415

ABACUS - Atari Bay Area Computer Users Society. (415) 587-8062. 300/1200 24 hrs. Free messages and downloads for 8-bit & ST users. Sysop: Ed Van Pelt

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Boot to the Head. (415) 352-5411. 300/1200 8-N-1 24 hrs. Multiplayer games only. Pyroto, Tradewars Taskforce & more.

Catholic Information Network - Santa Clara County. (415) 967-3420. 300/1200 8-N-1 6 PM-8 AM. PC pursuitable through (408) through Santa Clara BBS. No access charge. People of all faiths welcome.

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Family Radio Forum - Oakland. (415) 562-5483. 300/1200/2400 8-N-1 24 hrs. Download pub. software & entire bible texts. Echo conferences on parenting, teens, singles, etc. Christian BBS for all. Sysop: Richard Yim

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File Exchange. (415) 647-0505. 300/1200 8-N-1 24 hrs. MAC-based, mostly MAC but other types of computers welcome. Discuss problems & tips related to various programs.

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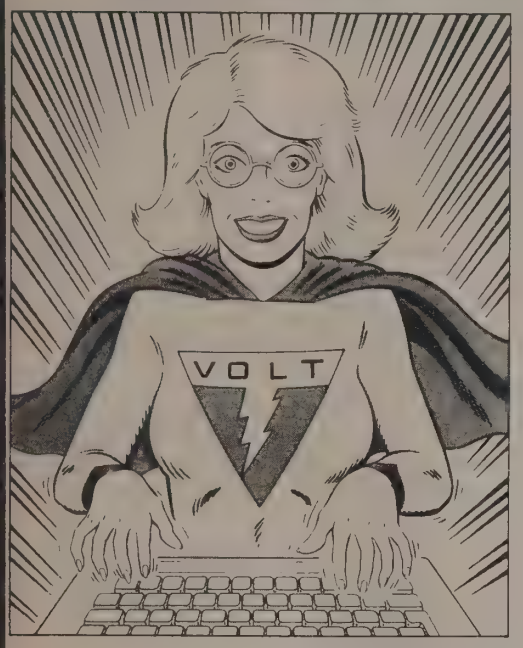

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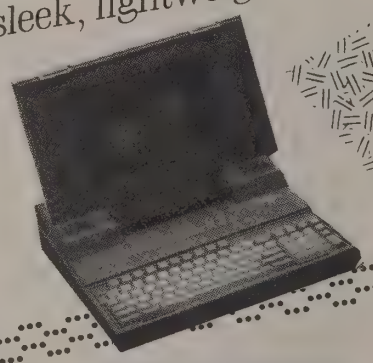

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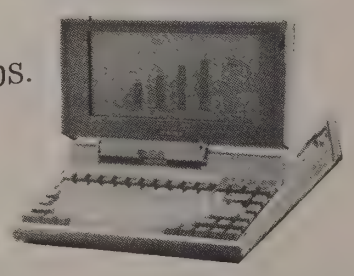

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Atari Computer Assoc. of Orange County (ACAOC). Meetings: 2nd. Sun. 1 PM Rancho Santiago College, Phys Ed. Bldg., Rm. W-101,Santa Ana.

California Educational Computing Consortium CCCE. For information write Herb Garrett, Long Beach City College, 4901 E. Carson Street, Long Beach, CA 90808.

USER GROUPS

AMIGA

Amiga Friends. Meetings: 3rd Sun. Rancho Santiago College, Rm R-124, 17th & Bristol, Santa Ana. Call for current meeting info: (714) 775-7237 (24 hrs.) or write: P.O. Box 4186, Huntington Beach, CA 92605.

Bits & Pieces Amiga Group of Anaheim. Meetings: each Tues. 6:30-10 PM 1130-A North Kraemer Blvd., Anaheim, CA. DOS Classes, tech. help & more. BBS: (714) 630-8897.

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South County PC Users Group. Meetings: 3rd Sat. 9 AM American Savings, 23688 El Toro Rd., El Toro, CA.

AMSTRAD

AMSTRAD User Group, U.S.A. Meetings: 4th Tues. 7 PM & 8 PM Venice High School, 13000 Venice Blvd. Since Sears dropped the PCW8256, group formed so users/owners can support each other.

APPLE

Original Apple Corps. Meetings: 2nd Sun. 12:00 Noon 3rd Floor Community Room, Santa Monica Mall. First Apple group ever. SIGs for AppleWorks, Telecomm, Educators, Macintosh. Call Fred Duffy at (213) 396-5515.

ATARI

Santa Clara Valley Atari Computer Enthusiasts (SCVACE). Meetings: 1st Thurs. 7PM Mint Canyon Moose Lodge, 18000 W. Sierra Hwy, Canyon Country. 8-bit group. Atari ST special group now forming.

South Bay Atari ST Computer Club. Meetings: last Mon. 8 PM 15331 Praire Ave. Lawndale.

Atari Computer Association Of Orange County. Meetings: 2nd Sun. Rancho Santiago College, Room W101, Santa Ana. BBS: (714) 540-7378.

COMMODORE

OKOK Computer Users Group. Meetings: 2nd Wed. 7-9 PM Altadena Public Library, 600 E. Mariposa. Call (818) 794-3243. Serves, Osborne, Kaypro, Commodore C128, PCs and compatibles and both MS-DOS and CP/M operating systems.

Bits & Pieces Commodore Computer Group of Anaheim. Meetings: each Tues 6:30 PM 1130-A N. Kraemer Blvd. (Kraemer & La Palma), Anaheim. Offers public domain software, demonstrations, interactive training on your computer. $33 annual dues.

Commodore Users & Buffs Enthusiasts (C.U.B.E.). Meetings: 1st & 3rd Tues. 4:30 Mid-Cities Nat'l Bank, NE corner Lakewood & Artesia, Bellflower.

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Orange County Commodore Technical Users Group (C-TUG). Meetings: 4th Sun. 10:30 AM Mercury Savings & Loan, 4th & Newport, Tustin, CA. Newsletter; 2 BBS's; door prizes; SIGs in Comal; DOS protection data bases; wpros; & BASIC. Custom software, ROM chips.

South County PC Users Group. Meetings: 3rd Sat. 9 AM Great American Savings, 23688 El Toro Rd., El Toro, CA.

South Orange Commodore Klub (SOCK). Meetings: 1st Wed. 7 PM Laventhol & Horwath, Exec. Conf. Rm.7th Fl., 3699 Wilshire Blvd., LA, CA.

Southern California K-Man Users Group. Meetings: 1st Wed. 7PM Laventhol & Horwath, Executive Conference Room, Seventh Floor. 3699 Wilshire Blvd., Los Angeles.

Pacific Computer Club. Meetings: 2nd Thurs. 7 PM 391 S. Madison, Pasadena, CA.

Pasadena Commodore Computer Club. Meetings: 1st and 3rd Weds. 7:00 PM Circadian Room, Pasadena City College Cafeteria. Colorado Blvd & Hill, Pasadena. Call (818) 447-2212 after 2:30 PST or write P.O. Box 163, Arcadia, CA 91006.Supports C64 and 128 machines.

dBASE

Valley West dBASE Users Group. Meetings: 3rd Mon. 7:00 PM Blue Cross Of California, 21555 Oxnard St., Woodland Hills. Call (818) 343-9033 or write P.O. Box 16971, Encino, CA 91416.

DEC

DECUS Rainbow Pacific PC-LUG. Meetings: 2nd Wed. 7:00 PM Digital Equipment Corporation, 6101 W. Centinela, Ave., Culver City. Digital Equipment Computer Users Society. Free to DEC users. Call Karen Danforth (818) 787-8736 or write P.O. Box 2278, Van Nuys, CA 91404.

EPSON

San Fernando Valley Epson QX User Group. Meetings: 3rd Tues. 7 PM Fallbrook Sq. Comm. Rm., Fallbroook Mall, 6633 Fallbrook Ave. Canoga Park.

IBM AND COMPATIBLES

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Kern Independent User Group. Meetings: Write Kern Independent PC User Group, P.O. Box 2780, Bakersfield, CA 93303.

Long Beach IBM Users Group. Meetings: 3rd Wed. 7 PM Woodruff Medical Plaza, 3816 Woodruff Ave., Room A, Long Beach.

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The IBM & Compatibles User Group (ICUG). Meetings: 4th Thurs. 6:30 PM or 7:30 CAL Lutheran Univ., 60 W. Olsen Rd., Thousand Oaks. Group is 5 yrs. old & has 150 members Meetings begin at 6:30 for beginners, 7:30 regular members.

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San Fernando Valley TI-99/4A User Group. Meetings: 2nd Wed. 7:30 PM Doctor's Conf. Rm., Sherman Oaks Hospital, 4929 Van Nuys Blvd. Call for info: (818) 248-9558.

SFV 99ers. Write: 2823 Sanborne Ave., La Crecenta, CA 91214.

TI Riverside UG. Meetings: Call for info: (213) 545-9581 or (213) 551-9454.

TI Users Group of Orange County. Meetings: 3rd Thurs. Peek Funeral Home, 7801 Bolsa Ave., Westminister. Call 633-7317.

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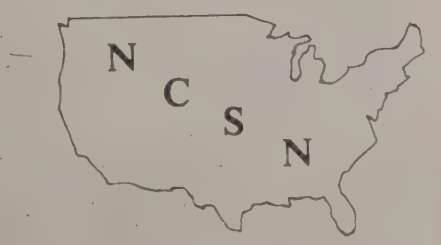

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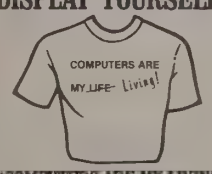

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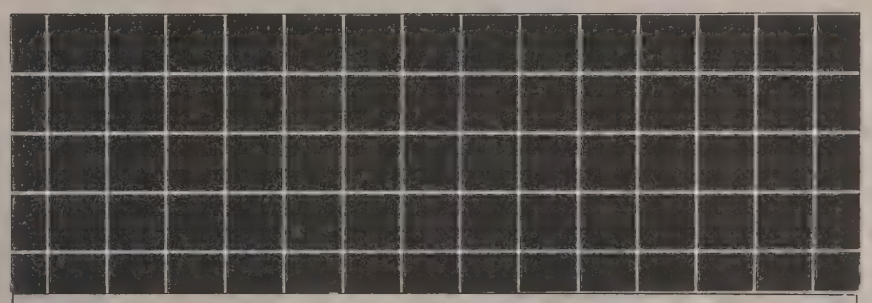

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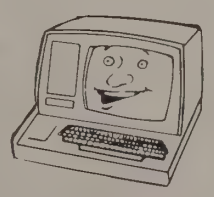

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Boeing Calc *continued from page 70*

The main menu choices are the same as *1-2-3*'s with one addition — a curious item called "Environment" which lets you set the currency symbol, the screen edge color, and save or use keystrokes in a macro file. "Grab-Bag" might have been more apropos. And while *Boeing Calc* will import and export files in a variety of formats including ASCII, *1-2-3* R1, *1-2-3* R2 and *Symphony*, it will not import *1-2-3* macros. You can import portions or a whole worksheet into single or multiple *Boeing Calc* pages.

Boeing Calc handles the trauma of moving from two to three dimensions almost seamlessly. It feels natural. Occasionally you're prompted to enter a page range as well as a cell range, but for the most part, you'll forget about that third dimension — until you need it.

One of the nicest features of this program is a variation on *1-2-3*'s "point" mode. The standard "point" mode allows the user to highlight a range of contiguous cells as input to a formula. This can save you from going blind trying to read and type cell addresses. With *Boeing Calc*'s enhanced "point" mode (activated by the F10 key), cells need not be contiguous. Just move the cursor to a cell of interest, and hit an arithmetic operator (+, -, *, ^, /) — the cell address and operator will automatically appear in the formula. Hit ENTER to complete the formula input. But use caution — this option can be habit-forming!

The advantages of the 3-D approach are obvious — it's simply a more natural way of solving problems. Most real problems involve interactions between related entities — a balance sheet, income statement and cash flows, for example.

Another simple yet elegant feature of *Boeing Calc* is its ability to figure out when you're typing cell addresses and formulas. You don't have to worry about prefixing a cell reference by a "+", or a formula by "@." *Boeing Calc* does it for you.

And you want macros? We got macros. *Boeing Calc* includes, not only workpad macros, but also file macros. The workpad macros are created like *1-2-3*'s macros — by defining range names that start with the "/" key. They're activated by hitting an alt-letter combination. The program includes a robust set of scientific, logical, financial and macro-specific functions.

Additionally, the file-macro option lets you save and play back a series of keystrokes in a disk file. The macro files are in ASCII format, so they can be modified with any standard text editor. However, it's such a pain to branch back and forth to DOS to edit these files that I think this function will be used mainly to save keystrokes for later import to workpad macros, or to store already debugged macros.

If this package has one Achilles heel, it would have to be the omission of graphics. *Boeing Calc* has a "Graph" option on the main menu, but disappointingly, that choice only becomes functional when *Boeing Graph* also resides on disk. *Boeing Graph* is a separate 3-D graphics package with reputedly impressive abilities. However, the $350 list price of that program almost doubles your spreadsheet investment. Since graphics are so important for effective presentations, it would have been nice if BCS had at least included some rudimentary graphics abilities.

While the manual will never make the best-seller list, it's reasonably well written and includes a convenient quick reference guide. The package also includes two tutorials. The first is an impressive on-line overview of the program, features, and the standard "what is a spreadsheet" spiel. The hands-on tutorial is a two-lesson exercise in setting up a workpad in *Boeing Calc* and exploring that third dimension. Although the lessons have to be printed from a disk file, they'll be quite useful to the 3-D novice.

In short, *Boeing Calc* is an impressive, well organized, and well realized spreadsheet. While its capabilities are skewed towards the needs of power users, its sensible implementation of 3-D also makes it a good choice for armchair analysts. Current *1-2-3* users and spreadsheet novices will find the package easy to use. Its only noticeable deficiency is the lack of internal graphics, which currently can only be remedied by purchase of *Boeing Graph*. (*Boeing Calc*'s suggested retail price is $395. For more information, call Boeing Computer Services, 800/368-4555.)

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DVORAK'S LAST COLUMN

The Mail Of The Rich And Famous:

Letters to Dvorak That Were Never Received, Or Wouldn't The World Be A Better Place If This Were All True?

By John C. Dvorak

Dear Mr. Dvorak,

I need your help. I can't figure out what's wrong with my management style. People say I'm abrasive and treat people like dirt. I yell at secretaries and they say I act like a kid all the time. I took the criticism seriously a few years back and even stopped eating meat after I read in a health food store that the chemicals in red meat go into your system and make you violent. It didn't help. Now people think I'm a nutty vegetarian. I suppose if I ate cockroaches they'd think that was weird too! I gave up listening to them. I figure that those who criticize me are the ones who are crazy and out to get me. I don't care. This means nothing to me anymore. I have a new computer that I need to get out and it seems that the way things are going it will never be released. This is what's important to me now. Can you recommend a good book on management or productivity that I can read? Also what should I call the computer and what color would you recommend for it? Thanking You in Advance.

I remain,
Steve Jobs
NeXT Corp.

Dear John,

I've disagreed with you in the past, but I have to admit that reading your various columns over the past few years you've been right most of the time. In fact I had the research department here at Apple look at those old columns you used to do for *Infoworld* and other publications back in 1982 or so and we discovered that your predictions and insight were incredible. We're sending you a retainer for $100,000 (check enclosed) to help us plan out next computer roll-out. We need your help. I was particularly impressed by your accurate critique of our old Lisa computer. You were sure right about those dumb disk drives we put in them. We don't want anything like that to happen again. If you don't want to help us, that's okay too. Keep the check and consider it a "thank you" for a job well done.

Sincerely,
John Sculley
CEO Apple Computer

Johnny Baby,

Like I was really radically bummed by a recent criticism you wrote about Microsoft *Word*. Well, I really took your advice and really tried *WordPerfect* and found it to be much better than our product, for sure! I especially like the new *WordPerfect 5.0*. It's fantastic. It's so cool, I decided to take Microsoft *Word* off the market. In fact, I began to look at a bunch of our offerings and see that a lot of them aren't what they should be. So I'm taking them off the market too. Thanks for setting me straight. Enclosed find a set of keys to a new Porsche 928S which will be delivered to your home tomorrow. Drive carefully!

Groove on,
Bill Gates
Microsoft

Dear Mr. Dvorak,

I read with trepidation your recent criticism of our company. First you described us as "mammoth" in size, then you said we were "brutal" in our business tactics as you quoted from various books written about us that outlined some dubious practices. I had never heard of these books and picked up some copies. Boy oh boy. They never told us about any of this stuff in class! It's incredible what we've done. How come the government anti-trust people didn't do something? Holy cow. Well, let me just say that I'm going over the corporate records and I am going to document every dirty trick and cheap tactic we've ever pulled and I'm going to march these documents over to the Justice Department and say, "Look, you jerks! I don't know if any of this stuff is illegal or not. All I know is that we intend to be straight shooters and set a good example for the youth of America. Do with us as you see fit. Meanwhile get off your duffs!"
Thanks for your help!

Sincerely,
John Akers
IBM

P.S. We're dropping that silly dress code too.

Dear Mr. Dvorak,

I always thought that I was your biggest fan until I found out that here on Capitol Hill EVERYBODY has a mail subscription to all the publications you write for. Despite what Casper says about you behind your back, I find your insight and analysis very valuable. I only have one question. If I want to do some simple word processing, but I don't want to spend a lot of time learning about computers, should I get an IBM or a Macintosh? Are clones any good? Where do I get them serviced if they break? What's the best word processor and do I really need a powerful machine or will anything work for me? I've enclosed a self-addressed stamped envelope for your reply.

Very Truly Yours,
Ronald Reagan
President of the United States

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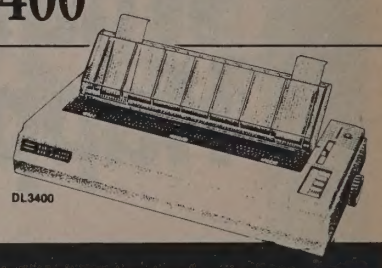

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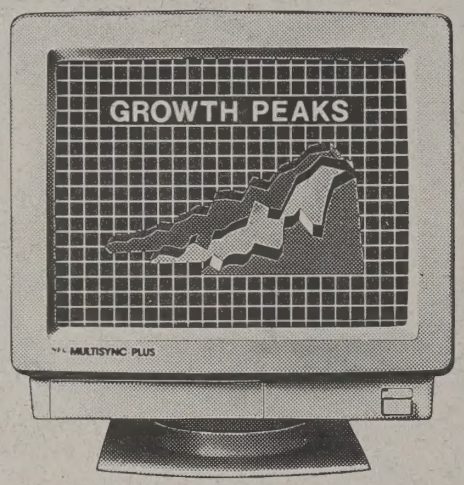

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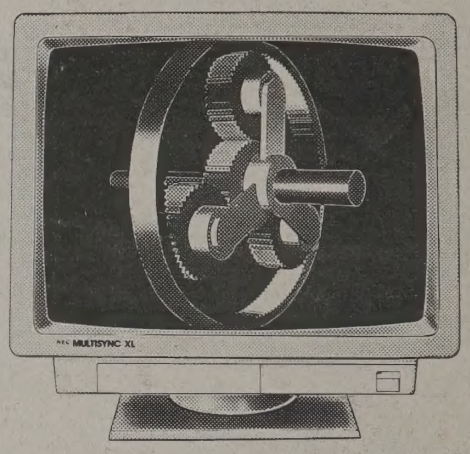

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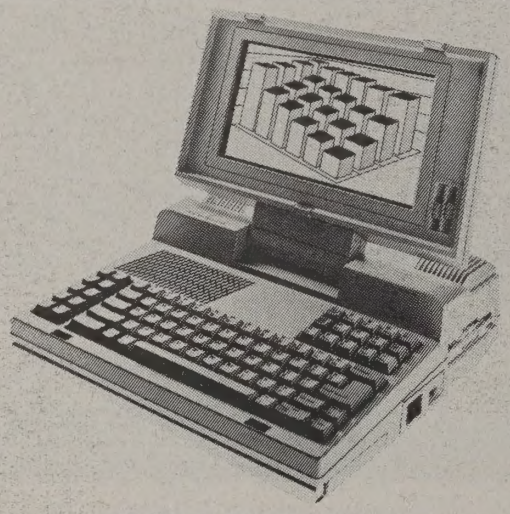

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